





ELEMENTS OF THOUGHT:

OR,

CONCISE EXPLANATIONS

OF THE

PRINCIPAL TERMS EMPLOYED IN THE SEVERAL BRANCHES

OF

INTELLECTUAL PHILOSOPHY.

BY

ISAAC TAYLOR.

Nec manus nuda, nec intellectus
Sibi permissus, multum valet.

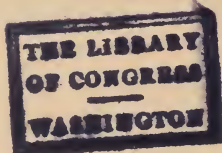
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PREFACE TO THE FIRST EDITION.

THE design of this volume is to impart, in a familiar form, elementary explanations and instructions on subjects connected with the intellectual faculties; to afford gradual and easy exercises to the powers of abstraction; and thus to conduct the young reader, by an *accessible* path, into that region of thought where the mind acquires force, accuracy, and comprehension.

A writer who invites the attention of young persons to subjects which demand a continued effort of thought, is tempted to win that attention by some promise of amusement; or to profess that he has the art of communicating knowledge without the cost of labor on the part of those who receive it. No such promise or profession can be offered in the present instance. The author believes that when the object intended is to give tone and vigor to the understanding by exertion, trivial digressions and gaieties of style should be avoided. Relaxation from efforts of attention is perhaps always better provided for away from books than in them; or at least it should be entirely disjoined from serious studies.

The writer, therefore, does not treat his young readers as children, who must be allured by the promise of entertainment to advance in the course of mental improvement, and to whom knowledge must be administered, like a nauseous drug concealed in a sweetmeat. On the contrary, he boldly claims their undiverted attention; he invites them to THINK,

and suggests no inducements besides the proper pleasures and advantages of intellectual cultivation. He has indeed endeavored to make this introduction to the study of the mind as familiar and intelligible as possible, and has presumed upon no higher qualifications in his young reader than an ordinary measure of intelligence—a moderate proficiency in the several branches of education, together with a deliberate and efficient desire for the improvement of the mind.

In explanation of the form into which these elementary instructions are thrown, it may be proper to say, that the writer has been guided by the opinion that comprehensive and systematical books are little adapted to the purpose of initiation in studies of the kind to which this volume relates. A treatise on any branch of intellectual philosophy, if it be *complete* and *systematical*, must include many topics which no simplicity or perspicuity of style can render easily comprehensible. One portion of the book may be readily understood, while another portion, though not less lucid in its style, may baffle the efforts of the unexercised faculties; and thus perhaps may occasion to the youthful reader final discouragement and disgust. The writer, therefore, has not aimed to compose regular elements either of Metaphysics or of Logic, believing that the first book which is put into the hands of a young person with the view of inviting his attention to objects purely intellectual, should be rather select than comprehensive in its topics.

ADVERTISEMENT

TO THE NINTH EDITION.

IN sending this little volume again to the press, after the lapse of several years, the author has been induced to rewrite it; and although he has retained portions of the original work, has superseded more, and has thrown the whole into a new form.

The volume is now offered to the public, first, as

A BOOK OF REFERENCE,

to which recourse may be had by those who are not fully and familiarly conversant with Intellectual Philosophy, when explanation is needed of those abstract and scientific words which occur in the course of reading the best authors, and which find a place, more or less frequently, in the conversation of the educated classes. It is especially with a view to facilitate *this* use of the book, that the articles have been placed in alphabetic order.

The author has, furthermore, borne in view the advantage of those, who, although neither their tastes nor their opportunities may admit of their engaging in the study of Intellectual Philosophy, or of their perusing larger works, would

gladly acquire some general knowledge of these subjects, such as should be at once correct, precise, and easily retained. The author is not aware that any modern work, except his own, is to be met with adapted to the use of the class of readers he is now speaking of; and he has especially endeavored to suit his style to the range of such persons. The method he recommends them to pursue, in availing themselves of his labors, is, after perusing the preliminary synthetical explanation of terms, to read each article of the vocabulary in the order in which it occurs in the synthesis; by which means the whole will present itself as a connected system (though brief indeed) of the three principal branches of Intellectual Study, and so form a compendious

SUMMARY OF MENTAL SCIENCE.

There is yet another, and a very important purpose to which the author would fain believe his little volume may be found applicable; he means that of catechetical instruction in schools on these subjects, indispensable as they are to a good education. The book is therefore explicitly offered to Tutors and Teachers as

A CLASS BOOK OF PHILOSOPHIC THEMES;

and without presuming to dictate to those whose experience in the arduous business of education qualifies them to select the most efficient and practicable methods of instruction, the author suggests, that each pupil, having first been directed in what way to avail himself of the prefixed SYNTHESIS of terms, as a means of bringing together the several articles that are naturally related one to the other, should then (the books being laid aside) express, in writing, his sense of each article, and that, after a short interval, the CLASS should be questioned on the chief points of the three branches of Intellectual

Science ; as, for example, the Teacher asks for a definition of MIND, as distinguished from MATTER ; he next inquires what correspondence mind has with matter, and by what means, namely, the senses for perception, and the nervous muscular system for the exertion of its innate power of resisting and moving matter. He goes on to interrogate on the difference of those several states of the mind which connect it with the external world ; and in doing so will find it easy to render the subject at once intelligible and attractive by illustrations readily drawn from familiar experience, or from the regions of poetry.

A single branch of any of these subjects may be quite enough to fill the portion of time allotted to the exercise ; or the rule might be to assume the words belonging to one paragraph of the synthesis as the materials of each catechetical lecture. Thus, for instance, the terms of physical science (page 12) would be explained on one occasion, those belonging to the proof of historical facts (pages 12 and 13) on another ; and again the phrases of argumentation at a different time.

The author will only subjoin a hint to the Teacher on the importance of imparting to the pupil, and of maintaining in his own mind, a clear conception of the essential independency and dissimilarity of those three branches of study, namely—the science of the mind, or its Physiology—Metaphysics, or the philosophy of abstraction—and Logic, or the science and art of acquiring and communicating knowledge ; since from confounding these subjects, not only does the mind lose itself in endless obscurities, but is liable to practical mistakes, in matters of opinion, which are easily avoided if the distinction be kept in view.

Without attributing a paramount importance to the cultivation of Intellectual Science—physical or abstract—it may

fairly be affirmed, that a well conducted and *early* initiation in this branch of philosophy secures a mental advantage of great practical value ; and which, if it were generally possessed, would go far in accelerating the universal diffusion of the highest Truths.

November, 1833.

SYNTHESIS,

OR

SYSTEMATIC VIEW OF THE TERMS EXPLAINED
IN THIS VOLUME.

THE terms employed in the several departments of abstract and mental science are readily separable into Three Classes:—

The FIRST CLASS, containing those which belong to the Physiology of the human Mind; and which designate its several faculties, and modes of feeling, and acting; such, for example, as *sensation, emotion, imagination, &c.*

The SECOND CLASS comprehends those terms which represent purely abstract notions, such as *essence, extension, space, power, substance, mode, &c.*, and which belong to METAPHYSICS.

The THIRD CLASS are those that express the operations of the Mind, its methods, and its artificial processes, in acquiring and in communicating knowledge. These terms belong to LOGIC.

We have therefore before us—

1st. Mental Philosophy, which treats of the nature of the Mind ;

2d. Metaphysics, or the science of Abstraction ;

3d. Logic, or the method of gaining knowledge for ourselves, and of conveying it to others.

CLASS I.

TERMS BELONGING TO THE PHYSIOLOGY OF THE MIND.

The MIND is that which feels, and knows, and thinks ; or which is conscious of existence ; and is distinguished from MATTER, which affects the mind through the senses ; and is moved by the voluntary effort of the mind, exerted through the muscles.

That CONSCIOUSNESS of existence which belongs to the mind, and which extends without interruption from one period of life to another, imparts the notion and conviction of personal IDENTITY.

The human Mind is distinguished from the brute mind, not only by the greater extent of its faculties, and especially of the faculty of

abstraction ; but by its being guided, in almost all its operations, by its knowledge of the connexion of cause and effect : whereas, animals are more often guided by an unknown influence, called Instinct, than by any calculation of means, as conducing to an end ; or by a knowledge of consequences. The words REASON and INSTINCT are used to express this important difference between man and animals. Whenever the state of the mind is changed by some cause exterior to itself it is said to be the subject of an IMPRESSION.

The Mind is conscious of impressions from the external world through the organs of sight, hearing, taste, smell, and touch : changes in its feelings, so produced, are called SENSATIONS ; and when two or more sensations, coming from the same object, through different senses, lead the Mind to think of that object as an external cause of its feelings, it is said to perceive, or to have a PERCEPTION. The recalling of a former perception, or sensation, is CONCEPTION. The mental image, so recalled, is an IDEA ; and is distinguished from a NOTION, which is a thought, purely mental or abstract.

Independently of any act or effort of the mind, there is incessantly going on within it a SUCCESSION OF IDEAS or emotions ; and these

ideas follow each other in consequence of some circumstance of real connexion, or of accidental relationship. This is called the ASSOCIATION OF IDEAS. In other words, there is something in each thought which brings some other before the mind; this is SUGGESTION. When former perceptions or emotions recur to the mind, attended by circumstances of time and place, we are said to remember; and the power of remembering is MEMORY.

The power which the mind possesses, not only of *recalling* ideas, or of having conceptions, but of separating such conceptions, and of recomposing them in new modes, is IMAGINATION.

Besides impressions from the external world, received through the senses, the mind is liable to feelings which arise from the several organs and functions of the body, such as its APPETITES, and other corporeal sensations. It is moreover subject to states of feeling which, though belonging to the Mind, never take place without, at the same time, affecting the body, either in a gentler or a more violent degree: these feelings are called EMOTIONS; such as *love, hatred, fear, wonder, &c.*

When the Mind acts in bringing together, comparing, or separating its ideas, or notions,

it exerts its INTELLECTUAL powers. The emotion or desire *to know*, which is the immediate cause of this exertion, produces a *continuance* of certain ideas or notions in the mind, longer than they would continue in the ordinary course of the succession of ideas. This act, producing continued thought, is ATTENTION.

If two or more objects or ideas are compared, and the relation between them is instantly perceived, the Mind is said to know by INTUITION. When, either by such intuition, or by continued attention, the relation between two ideas is perceived, we are said to APPREHEND.

Single properties, or sensible qualities of bodies, or the parts of complex notions, are thought of *separately* and apart from all other properties, by the power of ABSTRACTION. This power is the principal distinction of the human Mind. The power of considering the qualities of things apart, leads to the process of combining them in new forms, called INVENTION.

Two or more objects or notions are detained before the Mind, and are compared the one with the other, and their agreement, or disagreement, or relative proportion, is ascertained by the faculty of JUDGMENT.

REASONING, is the bringing together a series of things, or notions, which are found to be

successively dependent one upon the other, or between which there exists a real connexion.

The principal states and operations of the human Mind, considered in the simplest form, and apart from all the diversities, and peculiarities, and accidents to which, in individual cases, it is liable, are designated by the above-named terms.

CLASS II.

ABSTRACT OF METAPHYSICAL TERMS.

The notions which are the subject of the science called METAPHYSICS, all result from the faculty of Abstraction ; as, for example, when various objects are perceived, and compared, which agree in form, we think of *form* apart from *colour*, *hardness*, &c., and then think of the several sorts of form, or figure ; as *round*, *square*, &c. And in the same way the notions of the mind are separated, and compared, and analysed, and combined. These abstract notions, as they are less instantly intelligible, or less readily compared than sensible images, are often called ABSTRUSE.

From our own consciousness, after separating from it all idea or recollection of particular states,

or emotions, we derive the simple abstract notion of EXISTENCE; otherwise called BEING.

All the sensible and inseparable properties of anything, thought of together, constitute its NATURE, or ESSENCE; and we think of this nature, as containing a hidden something, called SUBSTANCE; which supports or sustains, first, its PRIMARY qualities, or those essential to it; and then its SECONDARY qualities, which are imagined to be separable.

These qualities are the MODES, or AFFECTIONS, or ATTRIBUTES, or ADJUNCTS, or ACCIDENTS, of the substance in which they are found. The entire collection of properties belonging to a substance forms the AGGREGATE. The qualities spoken of as so associated are CONCRETE; and a being, or a notion, consisting of parts or qualities that may be abstracted (in idea) one from the other, is COMPLEX.

The thinking of two things or notions together, comparing the one with the other, gives the notion of RELATION; which may be the relation of *Agreement*, or of *Difference*, or of *Proportion*, or of *Power*.

The thought of a quality as present, or as removed, and absent, suggests the relative notions of POSITIVE and NEGATIVE modes.

The acquaintance which the mind gains with

matter, by its own sensations, leads it to form a notion from which all particular forms, colors, and other variable qualities, are withdrawn, and which we call **EXTENSION**. Removing again from this notion all idea of the sensible properties of matter, we acquire the simple abstract notion of **SPACE**. By a similar process our general consciousness of continued existence, apart from particular events, suggests the notion of **DURATION**. Extension or duration, without limit, is **INFINITE**.

The consciousness which the Mind has of its ability to control its own states, and to move the body, gives the notion of **POWER**. Whatever possesses, or is *supposed* to possess Power, is called **ACTIVE**: that which is acted upon is **PASSIVE**. That which exerts Power, or which by a natural prejudice, is thought to exert power, is a cause; and the change produced is an **EFFECT**. Cause and Effect, thought of as simply connected in time, are called **ANTECEDENT**, and consequent. Where a similar order of causes is supposed to exist in different classes of beings, the resemblance or sameness is expressed by the word **ANALOGY**.

Power, operating without restraint, is **LIBERTY**. The existence of restraint; or, as sometimes, the infallible connexion of causes and effects, is

called NECESSITY, and is opposed to CONTINGENCY; which means the absence of any real or settled connexion of causes and effects.

When the established order of causes and effects is calculated upon, and causes are put in operation with an express view to obtain the effects they will produce, this intelligent exercise of power is DESIGN. Supposed connexions of cause and effect, thought of as contradictory, or absurd; or not so, give the notions of POSSIBILITY, and IMPOSSIBILITY. An effect which will not take place, unless a certain cause is assumed as present, is CONDITIONAL.

This synthesis of abstract terms might be enlarged, almost without end; but it is here purposely confined to the few which are either of principal importance, or which most frequently occur in metaphysical discussions.

CLASS III.

LOGICAL TERMS.

Truths which are not intuitively perceived, must be ascertained by successive efforts of the mind: or when ascertained, must be communicated to others in successive portions. These methods of thinking and of discoursing, together

with the states of the mind in relation to the subjects of its knowledge, are designated by the following terms, which may be arranged under four heads:—1st. Those which belong to the separation and *sorting* of ideas or notions. 2d. Those that relate to the discovery of the laws of nature, and belong to physical science. 3d. The terms that are connected with the proof of historical facts. 4th. The terms of reasoning by the statement of successive propositions.

1st. Terms of separation and *sorting*, and which belong in part to the discovery, but more to the conveyance and preservation of knowledge.

Generally, any placing of multifarious things in *sets* or in *series*, for the ease of the mind in thinking, or in learning, is METHOD; of which ORDER is either the means, or the end, according to the sense in which that word is understood. The least artificial kind of method is that of mere DIVISION; which reduces many to a few parcels. But if many things are sorted with some reference (more or less accurate) to their real differences, then the sorting is called an ARRANGEMENT (in reference to things); or a DISPOSITION (in reference to thoughts). After an arrangement has been planned, the things for

which it is intended are assigned to their places by DISTRIBUTION.

A more exact or philosophical sorting of things or notions, is effected, *first* by an effort of abstraction which, when completed, in relation to a complex body or notion, is an ANALYSIS. After an analysis has been completed the parts or qualities which have been taken asunder, may be re-composed: this is SYNTHESIS.

When organized bodies (especially) which in some things are alike, and in some unlike, are sorted according to their resemblances and differences, the process is CLASSIFICATION. The larger sets or sorts are GENERA; and the smaller species. Words representing many individuals sorted together, are COMMON TERMS. A question concerning the objects of common terms, gave rise to the distinction of NOMINAL and REAL.

A DEFINITION is the naming of the larger sort, or *genus*, to which any thing belongs; and then of that DIFFERENCE which is the DISTINCTION, between it, and others of the same genus. To mention more differences than is essential to a Definition, is to give a DESCRIPTION.

2d. The principal terms employed in relation to the discovery of the laws of nature, or the terms of physical science, are these:—

Any natural fact or event, considered as an object of philosophical curiosity, is a PHENOMENON; or facts known, and which are to be explained, are DATA. The supposition formed concerning the cause of a phenomenon, is an HYPOTHESIS. A complete set or system of such suppositions, is a THEORY. A trial made for the purpose of discovering the cause of an effect, and which is guided by some hypothesis, is an EXPERIMENT. The inferring of general facts, or the laws of nature, from many particular facts, is INDUCTION; and the expressing or sorting of such laws is GENERALIZATION. General and well-established truths, in matters of natural philosophy, are SCIENCE. *Special truths*, applied to human industry, constitute an ART.

3d. The terms belonging to the proof of historical or *particular* facts, are these:—

The subject of enquiry is—a FACT, or actual event, not known to us by personal observation. In support of the affirmation that such an event has taken place, we seek for EVIDENCE, which may be either human TESTIMONY, or other facts, whence an inference may be drawn, bearing upon the matter in question. If this evidence is conclusive, it produces BELIEF: or if insufficient, DOUBT: and then the fact has attached

to it, in our minds, the idea of PROBABILITY, or the reverse.

If the matter in question be rather an abstract principle, than a matter of historical fact, it is established by ARGUMENT; or if susceptible of absolute proof, by DEMONSTRATION. The conviction produced by good argument is OPINION: or if that conviction be influenced by improper motives, it is PREJUDICE. A deceptive or unsound argument, is a FALLACY; and if employed for the purpose of deluding those to whom it is addressed, it is a SOPHISM.

4th. The terms employed in establishing a truth by the real connexion of a series of propositions, or REASONING, are these:—

That which is the object of the process is TRUTH. Truths when so evident as to be incapable of being made more so, are AXIOMS. Axioms from which many inferences are to be derived, are PRINCIPLES. All reasoning is carried on by the means of words, or other arbitrary SIGNS.

One thing affirmed or denied, concerning another, is a PROPOSITION. The words expressing these two things and their connexion, are the TERMS. Terms which may be exchanged, one for another, without destroying the truth

of an affirmation, are CONVERTIBLE. Terms which *imply*, one the other, are CORRELATIVE.

A positive and unconditional proposition is CATEGORICAL. A proposition which offers for choice one affirmation of two, is a DILEMMA. Propositions are either AFFIRMATIVE, or NEGATIVE; INDEFINITE, DISJUNCTIVE, or UNIVERSAL.

The thing concerning which an affirmation or negation is made, is the SUBJECT of a proposition. The thing affirmed is the PREDICATE.

The connecting of propositions, for the purpose of exhibiting the relation which subsists between them, is a SYLLOGISM; in which the facts granted are called the premises; the fact inferred—the CONCLUSION; or the three connected propositions, are called the MAJOR, MINOR, and MIDDLE terms.

VOCABULARY, &c.

ABSTRACTION.

From *Abstraho*, to draw off, or to draw apart ; or to separate and take away one thing from among a number.

Things that differ very greatly, one from another, are often found to be alike in some single quality ; and when this one quality is distinctly taken notice of, we readily learn to think of it apart from the other qualities with which it may have been joined ; and thus the mind acquires the habit of *drawing off* certain properties of things, and of giving names to them : this habit is called abstraction ; and the words employed on such occasions are called abstract terms.

There are, for instance, placed before us, a cricket-ball, a marble, a glass bubble, an apple, and an orange ; and we are asked if these things are alike ; we answer, No : for the first is brown, and may be indented ; the second is heavy, and

impenetrable; the third is transparent, and fragile, and light; the fourth is green and pulpy; the fifth is yellow and fragrant. But is there then no respect wherein they are alike? Yes; they are alike in shape, or form—they are round. *Roundness* then is the quality or circumstance in which these five objects agree, and which may be thought of, and spoken of, apart from the *weight, hardness, color, or smell*, of these five things. Thus we have obtained two abstract ideas—namely, that of form or figure, and that of roundness; roundness being a particular sort of form. Examples of this kind are easily multiplied; we will take another. Water, and glass, and spirits, and diamonds, admit the rays of light to pass through them; so that objects may be discerned almost as clearly when they intervene, as when they are removed. Some other bodies possess the same quality in a less degree; such as amber, and the amethyst, and the ruby, &c. We want a name for this property, belonging as it does to things so different as water, glass, and stones; and we call it *Transparency*.

Each of the five senses has its class of abstractions; that is to say, each sense separates single qualities from other qualities, discerned by itself, or by other senses. The eye separates

redness from yellowness, or whiteness, &c., and brightness from dulness;—and again separates colour from figure, and it separates colour and figure from the notions obtained by the other senses, such as hardness, or weight, or fragrancy, or fluidity. The sense of taste not only distinguishes sour from sweet and bitter, but separates them from the qualities that are made known to the mind by the sense of touch, as heat and cold, asperity and softness, &c.

Thus it is that likeness, or sameness of quality, in things otherwise unlike, leads the mind to form abstract notions, and to use abstract words. But having acquired this habit, it employs the power of separation in many other instances than those that belong to the five senses:—for example. If a man restores freely the property of another, which he could not have been compelled to relinquish; or if he speaks the exact truth when it might have been advantageous to him to utter a falsehood; or if in any way he regards the welfare of other men, when he is tempted to secure his own benefit, we form a notion which we separate from the particular circumstances that may have belonged to the man's conduct;—we feel that there is a peculiar *quality*, that belongs to his conduct, on all these several occasions, and we call it—In-

tegrity ; and the so *acting* is—Justice. Justice is not the name of one action, or of one kind of action ; but of the abstract notion which belongs to *any* action wherein a man pays strict regard to the rights and property of others. Or, if, in his actions, he goes beyond what might have been demanded of him ;—if he prefers the welfare of his neighbour to his own ; then we form the notion of another sort of quality, and call it—Generosity, or kindness. And in any new instance, even if all the circumstances are different, yet if a friend or stranger confers upon us a benefit which he might properly have withheld, we are reminded of the notion we had before formed, and call the action or the person generous.

Some abstract notions are SIMPLE ; that is to say, they cannot be described or made known otherwise than by single words, or by pointing to the objects in which they are to be seen or felt. Such are, *redness, whiteness, heat, cold, sweetness, pleasure, pain*, and many others. If the person to whom we would convey our meaning has never himself perceived the quality we are speaking of, we cannot impart to him our idea by words : or if he does not understand the word we first use, we must find some other, of the same meaning ;—if he does not know what the word *pain* means, we must try the word

dolor, or some other; but if he have never felt pain, the most ingenious description of it would be utterly useless.

But there are abstract notions that are COMPLEX, or made up of two or more ideas; and may therefore be described by mentioning those constituent ideas. Thus in the instances already mentioned, Justice may be described as the paying a strict regard to the rights and interests of others; or the not preferring our own welfare to that of others. *Generosity* is the conferring of benefits upon others beyond what they could claim. *Form* or *figure* is the relation to each other of the several surfaces of a solid body. *Distance* is extension between two points, divided into parts, and numbered. *Place* is the relation between one point and some other points on a surface. *Perfection* is the existence, together, of all the parts or properties that are assigned to some complex body or being. *Design* is the relation of all the parts of a complex body to the last effect which it is intended to produce. *Truth* is the relation of sameness between things and our notions of them; or between notions and thoughts, and our affirmations. *Liberty* is the absence of restraint upon choice or action. *Necessity* is the certain connexion between cause and effect. In all such instances

there is a notion conveyed by the word we employ which admits of being resolved into two or more ideas.

Now it is peculiarly important to understand the difference between simple and complex abstract notions, because, on the one hand, much time is often wasted in the vain attempt to describe or analyse what is simple; and on the other hand, much confusion often arises from neglecting to analyse notions that complex: hence it is that so many words are used in argument to which the disputants attach different ideas, and therefore are never able to come to an agreement even when they are really of the same opinion. It is a good exercise to define or analyse complex abstract notions.

The faculty of abstraction, conjoined with the use of language, is that chiefly which distinguishes human nature, and raises man far above all other animals.

After having thought of certain qualities apart from the things in which they are found, the human mind takes another step, and proceeds to bring together such qualities, and to compose them in new forms;—this is INVENTION. The same faculty enables man to think of the quality, or goodness, or badness of actions, and

is therefore essential to accountableness, and forms the basis of our moral nature.

Those differences of intellectual character and taste which distinguish mankind individually, depend very much upon the faculty of abstraction. One man possesses eminently the power of separating color from form, and he becomes a painter : another, in connexion with sensibility and delicacy of tastes, readily separates or *draws off* those qualities of things which excite the imagination, and he becomes a poet : another discerns and separates the mechanical properties of matter, and he is an inventor of machines : another discriminates mathematical properties, and he addicts himself to abstract science. Each department of science, and each walk of active life, has its peculiar kind of abstraction ; nor can a man be very successful in any line, if nature has denied him the special faculty which is demanded in that line.

What is called a *natural taste* for particular pursuits is most commonly a peculiar power of considering some one class of qualities, apart from all other qualities or circumstances. It is well when the choice of a profession is made in conformity with the original conformation of the mind.

ABSTRUSE.

From *abstrudo*, to hide, or thrust out of sight. This is a word of indefinite meaning, for it may be applied to whatever is not readily understood or explained; and that which to one mind is very obscure or difficult, is to another perfectly intelligible. It is a frequent inaccuracy to confound the words *abstruse* and *abstract*; or to use them as if synonymous. It is very true that abstract notions or principles are often abstruse; or, at least, may seem so to those who are not conversant with subjects of that sort.

ACCIDENT.

From *accido*, to fall close by, or to happen. When used in its philosophical sense, the term *accident* is applied to some quality, or property, or condition, which does not invariably belong to the thing in which it is found, or which makes no part of its essence; as heat in iron, polish to a diamond, learning to a man.

ACTIVE and PASSIVE.

Whatever produces a change in another body is *active*: the body which undergoes the change is *passive*. The same being may at one time

be active, at another passive ; or at one and the same moment may be in part active, in part passive. Thus the human mind is often at once active and passive. It is passive when it admits, and is influenced by impressions from the senses ; or when moved by the appetites and passions that belong to the animal or moral constitution ; or when it is influenced through the medium of language, by other minds ; and also when it merely follows the current of thought, and is in that state in which it may be likened to a person sitting at a window, who idly gazes at the crowd that passes before him. This is the state of the mind in sleep ; and also in what is called *reverie*. It is only in an improper sense that we can be said to *think*, when thus indolently musing. The mind *ACTS*, either when it exerts its power over *matter*—that is, over the muscles of the body ; or over *itself*, by directing, changing, or fixing at pleasure, the course of its thoughts. The possession of this active power is essential to what is termed moral agency, or accountableness ; without it, the mind, like the minds of animals, is swayed and governed by external and internal influences. The same power shows itself in all those acts of life by which man raises his condition above

that of the brutes. Energy and dignity of character bear proportion to the degree in which the mind is more active than passive.

If the human mind were merely ruled, from one moment to another, by its appetites and passions, it would never imagine a better condition than the one it is in, nor fix its attention upon the means proper to attain an end. What is called *attention*, is the exercise of the active principle of the mind. It is usual to speak of physical causes as active; but when any series of natural changes is scrutinized, it appears that what at first we called a cause, is itself the effect of some preceding event, which was, in its turn, also an effect. We come, at length, to what are called the hidden powers of nature, such as gravitation—chemical affinity—the principle of life, and so forth; and these, though beyond human knowledge, are, probably, themselves only effects of some relation between one element and another. Strictly speaking, MIND is the only active principle. The movements of nature are the effects of the Divine Mind. The changes that take place in the world of living and conscious beings, are the effects of the living power which the Creator has imparted to man and animals.

ADJUNCT,

From *adjunctum*, joined to. The words *adjunct* and *accident* are thus distinguished ;—an accident is a *quality* or condition that may or may not belong to the thing spoken of : an adjunct is a *thing* which may or may not be attached to something else. The binding is an *adjunct* of a book : the brightness of the paper, and blackness of the ink, are its *accidents*. Praise is an adjunct of virtue ; celebrity, of genius. Mental refinement, or taste, is an accident of virtue ; self-confidence, of genius.

AFFECTION.

From *affectus*, changed or qualified by the operation of some cause. The properties of any body are called its affections, in distinction from the matter or substance of the body, which we are prone to think of as a *something* to which its properties are attached. In truth, we are acquainted with nothing but those qualities or affections, which make themselves known to us through the senses ; and all the usual qualities, taken together, are, so far as our knowledge extends—all the thing. The distinction, therefore, between substance and affection, is not real or important. This, and many such

terms, though still occasionally employed, belong to the obsolete metaphysics and logic which were in fashion two centuries ago.

AFFIRMATIVE *and* NEGATIVE,

Are terms belonging to the art of reasoning and of disputation. All discourse may be resolved into a series of propositions, each of which declares or asserts that something *is* or is not ; *may* be, or may not be ; that one thing is equal, or like to, unequal, or unlike to, some other thing. Every verb with its nominative ; or, if it be transitive, with its nominative and objective cases, is an affirmative proposition ; or becomes a negative one by the addition of a negative particle. The altered termination which fixes the *tense* of the verb is a concise way of attaching to the affirmation *another affirmation*, which conveys the time of the alleged fact. Again, the *mood* is a third affirmation, succinctly attached to the principal one, and which declares the circumstances of possibility, or doubt, or desire, which belong to it. An adverb is another condensed proposition, attached to the first. For example,—“Alexander might long have ruled the world.” This affirmation contains four distinct assertions, as,

1st, an *implied* negative ;—Alexander did *not* long govern the world. 2d, An affirmative implied ;—Alexander had the power of long governing the world ;—*i. e.* if he had restrained his appetites and passions. 3d, An affirmation of the time ;—he *might have* done so : viz. in that distant age in which he lived. 4th, An affirmative conclusion ;—If Alexander had not destroyed himself, it is probable that his conquests would have remained in his possession to the end of the longest term of human life.

We do not often stop to recollect how much meaning is condensed within five or six words by the aid of grammatical forms. If it were not that these methods of compression enable language to keep pace with the rapidity of thought, it would be almost useless as a medium of intercourse ; for the mind could not confine itself to a movement so very much slower than that which is natural to itself. Let any one attempt to listen continuously to a narrative, every word of which should be spelt by the speaker ; he would find it utterly impossible to do so.

AGENT.

Whatever is supposed to be endowed with *power* is called an agent. When the word is

applied to physical causes—as we speak sometimes of chemical or mechanical agents, it is understood to be used in a tropical or improper sense. Strictly speaking, Minds are the only agents. See ACTIVE, POWER, and CAUSE.

AGGREGATE,

From *ágrego*, to gather together as a flock of sheep. Things which, when collected or brought into contact, form a whole in the mind only, and are not susceptible of any actual combination, may be said to form an aggregate. The word is used with the strictest propriety when the things or qualities so associated make up some complete abstract notion.

The *aggregate* of qualities, acquirements, natural advantages, and external recommendations, which are necessary to form an accomplished statesman, or a successful advocate, comprise many special endowments, or faculties, which would not be called for to complete the character of an accomplished gentleman. We form an abstract notion of what a statesman or lawyer ought to be; and the peculiar qualities which we think of as necessary, make up the *aggregate* of his endowments.

AGREEMENT,

Is something less than absolute sameness. *Identity* excludes *every* difference, even of substance or person. *Sameness* implies the presence of two or more things, which being compared, are found to have no other difference than that of substantial or personal identity. Agreement may subsist between things that are alike only in one quality, or in one point of relationship. John yesterday, and John to-day, is identically one and the same person. Two circles struck with the same radius, are the same in all respects, except absolute identity. Between a chest of tea and a bale of raw silk, there may be an *agreement* of exchangeable value; that is to say, the one may be purchasable by the same number of pieces of money as the other.

ANALOGY;

From ἀναλογία, conformity of reason, or causation. Analogy is a *real* or true agreement, or similarity of causes. A similarity in *appearances*, or in *effects*, or in incidental circumstances, is the foundation of metaphor, allegory, emblem, and rhetorical figure. Analogy addresses itself to the reasoning faculty. Allegory and metaphor address the imagination. Analogy, care-

fully pursued, may afford a solid foundation of argument. Metaphors prove nothing, and are useful only in the way of illustration, or embellishment. Whenever we anticipate or predict certain effects to take place, on the supposition that certain causes, with which in some other case we have become acquainted, are in operation, we reason from analogy. After it had been observed that rice flourishes in the hot and humid plains of Egypt, it was by reasoning from analogy that it was inferred that it might advantageously be cultivated in the sultry swamps of Carolina. The heat of the climate and the abundance of water, are presumed to be the causes of the productiveness of rice; and it is inferred that an ardent sun and a marshy soil will, in any country, favor the growth of the same species of grain. We reason from analogy when we suppose that the stars, like the sun, are surrounded with planets, which derive from them light and heat. The same Divine Wisdom which is seen to have made this admirable arrangement in one instance, is presumed to have made it also in others. When we see that every part of the earth's surface, and every drop of water, is crowded with animated beings, we reason from analogy in supposing that the Divine Benevolence,

which has filled one spot of his universe with life, has done the same in other places of his dominion. The strength of such an argument from analogy consists in an implied series of propositions of this sort: The Divine Wisdom and Goodness display themselves around us in the production of innumerable orders of sentient beings. These attributes of the Divine nature are unchanging and universal. They are present in one system as well as in another. It is therefore certain that they produce alike in all systems their proper effects, unless some special reason interposes to confine them. An argument from analogy is *strong*; but not absolutely conclusive, or *demonstrative*; because, as we carry our reasoning from a circle that is known to us, to one that is unknown, we can never be assured that there may not be, within that unknown sphere, some antagonist cause at work, of which, in our own sphere, we see no traces. Nevertheless, an argument from analogy falls very little short of demonstrative force, when we reason upward from effects to causes; or infer that causes must be the same, when the effects are so. As if it were found that rice flourishes wherever the climate is hot, and the soil humid, we might, with confidence, infer

that heat and humidity are in some manner the causes of the productiveness of that grain.

It is an argument of this latter kind which has been so successfully pursued by Bishop Butler, in his *Analogy of Natural and Revealed Religion*, wherein he shows that the same great principles which take effect in the world, as we see it to be constituted, prevail also in the system of Christianity ; whence it may be inferred that both proceed from the same Author. Or at least Christianity can never be reasonably rejected on pretence that it is irreconcilable with the actual constitution of the moral system, for a strict analogy subsists between the two.

Errors in argument very frequently arise from confounding resemblances or metaphors, with analogies. Minds imperfectly cultivated, are peculiarly open to this sort of mistake. The beauty or appropriateness of some comparison, captivates the imagination, and imposes on the understanding ; and so truth is lost sight of amid the illusions of poetry. Thus, for example, it may be said that the mind of man is like a garden, which, if neglected, will become choked with rank and noxious vegetation ; but which, when sedulously cultivated, produces whatever is beautiful, fragrant, delicious, and

useful. So far the resemblance holds good; and the metaphor well serves the purpose of illustration. But if a *real analogy* between the vegetable world and the intellectual and moral system were presumed to exist, many utterly erroneous consequences might be drawn from it:—as for instance, it might then be said that, though the feeble tribes of the garden may need culture, the robust and magnificent species of the forest spurn the hand of art, and tower the highest where they are the least interfered with:—and so that the noblest natures can receive no advantage from culture! This were to argue on the absurd supposition that the internal structure of oaks, and of human minds is the same.

ANALYSIS,

From ἀναλύω, to unloose or dissolve. *Abstraction* is the separation of some single quality or property from all others, without giving any attention to those other qualities. *Analysis* is the separation of some compound body into its several component parts, while we give equal attention to all those parts or elements. Abstraction carries the mind from object to object, wherever a certain quality can be detected. *Analysis* fixes the mind upon a single object,

until all its parts have been brought to light. In chemistry, analysis is the separation of all the elements that may be combined in any substance. Thus, atmospheric air, when analysed, is found to consist of two gases, and often to contain some portion of others. Water is the union of oxygen and hydrogen. Chemical phrases express, in a concise manner, those combinations that have been discovered by analysis. The notions or feelings of the mind admit also of being analysed; and to do so with absolute precision, requires a peculiar excellence of the intellectual faculties; an excellence which is the principal ingredient in the philosophic character. The power of abstraction, and the power of analysis, when both possessed in an eminent degree, fit the mind to pursue the higher and more abstruse branches of science.

An analysis of the notions, sensations, or states of the mind, demands close attention, and some practise also, to effect it with absolute precision. An easy example or two of this sort of analysis may thus be given.—We suppose there to be now present to the mind the idea of a country mansion, with its garden, and lawn, and shrubbery. This idea, or image, or mental picture, as we might call it, though made up of various parts, is yet all of one kind: it is a

mental perception of objects which have actually passed through the organ of vision. But we now suppose there to be joined to this image a feeling or conviction, that the image is not compounded by the fancy; but that it corresponds to a real object, and that we have seen that object, at a certain past time: the image is connected in the mind with a train of events—a journey, or a visit. This conviction is expressed by the word *memory*; and we say that we *recollect*, or remember, having seen such a residence. But beside the image, and the recollection of it, there is perhaps, in the mind, some vivid emotion of pleasure or regret, arising from circumstances that occurred at the time: we there parted with a dear friend, or there enjoyed the society of some distinguished persons. Now these emotions of pleasure or regret, and this conviction of past time, are so intimately connected with the image of the mansion, that we find it impracticable to recal or dwell upon the idea without bringing up also the memory and the emotion. And unless an effort of the mind is made—an effort of analysis, we feel as if there were but one undivided and indivisible idea or remembrance present to us. Or to take an instance of another sort.—The notion excited in the mind by the words *Prodigality* and *Par-*

simony, may at first seem to be simple and uncompounded; but not so when we ask ourselves what precisely we mean by the terms. Is the mere spending of a large income prodigality? or is the spending of a small one parsimony? no; something more belongs to the idea. To spend a large income well and liberally, is not to be prodigal, but munificent. The spending a small one with care and self-denial, is frugality. To be prodigal is to spend much wastefully, or without reason, or utility. To be parsimonious is to spend less than reason and charity demand; it is to refrain from those expenses which a man's income would fully cover, and so to refrain, for the sake of accumulating money.

This sort of analysis of complex notions is indispensable to accuracy of thought, and to propriety in the use of language.

What is a straight line? What is a circle? Our idea of them seems simple, and at first we may doubt whether they are capable of being analysed; but we shall find that both may be *described*, and therefore must be complex: for to describe a thing is to mention its component parts or elements. A *line* is a continued series of points; a *straight* line is that series which makes the shortest distance between its two extremes. A *circle* is a succession of points, all

equally distant from one and the same point, called its centre. The analysis of complex notions leads naturally to a discovery of the properties and relative value of the things analysed.

Those who do not possess, or who have not cultivated and exercised the faculties of abstraction and analysis, when required to explain what they mean by some word which expresses a complex abstract notion, such, for example, as *Liberty*, seek for a synonymous word, and reply, Liberty is freedom ; or they find a particular instance, and say “ a man who is not in prison has liberty.” But this sort of answer, though sufficient on ordinary occasions, can serve no purpose when exactness of thought is required, as in cases of argument. It is a fault of an opposite kind to busy one’s self in the vain attempt to analyse *simple* abstract notions, such, for example, as those expressed by the words *space, existence, pain, pleasure, &c.* Persons who have more activity and subtilty than strength or clearness of understanding, are prone to this error ; they delight in whatever is abstruse, confound the obscure with the abstract ; are reluctant to assent to simple and perspicuous propositions ; and while perpetually in search of what may seem new and profound, become

restless and variable in their opinions: and employ themselves with infinite labour upon endless and unintelligible questions. They invent or introduce new names for common ideas; and often believe themselves to have made great discoveries in abstruse philosophy, which however none can comprehend; or they laboriously affirm and demonstrate what no one denies; or what has no meaning.

APPETITE;

From *appeto*, to desire. All those desires which arise from bodily organs, and which are necessary to the preservation of the animal system, are called appetites; and are usually distinguished from those which belong more to the mind, and which are called passions or emotions. In his appetites man is not greatly distinguished from the inferior orders, but essentially so in his passions; for although the dog, the horse, the lion, the elephant, are susceptible of anger, pride, ambition, as well as of affection; these emotions are little more than transitory impulses; but the passions and affections of the human heart take permanent possession of the mind, and rule the character and conduct.

APPREHENSION;

From *apprehendo*, to take hold of. This word is used when the mind fully admits the ideas intended to be conveyed by a proposition; or when the terms of an argument, and their relation one to another are recognized as being familiar and unquestionable. Apprehension is distinguished from the next act of the mind, which is to form a judgment of the truth or falseness of some proposition founded upon, or derived from what is known. If it were affirmed that sparrows build nests of clay under the eaves of houses, we should indeed at once apprehend the assertion; all its terms are intelligible, and relate to matters familiarly known; but we immediately deny it to be true; the affirmation is perspicuous, but false. It is otherwise if an uninformed person is told that the class *mammalia* suckles its young; for in this case he can neither assent to the proposition nor deny it: he does not apprehend it—the terms being unknown to him. Many judgments are formed on the assumption that we apprehend, or are familiar with the terms, when in fact this is not the case. Phrases may be familiar to the *ear*, which are not so to the *mind*.

ARGUMENT,

Is the artificial process by which some proposition that is open to doubt, or which may be denied, is shewn, or probably shewn to be true, or worthy of belief, in a higher or a lower degree. A proposition that may be established beyond the possibility of doubt is said to be demonstrably certain. But this sort of infallible reasoning belongs to very few except mathematical truths, and matters of testimony, when the evidence is of the most satisfactory kind. A sound argument consists of a number of propositions, each one of which is separately true, and true also in its relation to the one which precedes, and the one which follows it. It is necessary also to a sound argument, that its several propositions should stand in a just order. It is moreover implied, in a complete and satisfactory argument, that the person to whom it is addressed already admits, or assents to, each of the separate propositions; and that he will grant the truth of the connexion affirmed to exist between them when clearly exhibited. If he denies, either some one of the propositions, or some one of the connexions, then means must be used for ascertaining the truth in that particular instance,

before any further progress can be made in the controversy. We take an example of the most familiar sort, and one that will exhibit the difference between demonstration and argument. B. affirms that in going from London to Norwich, it is better to pass through Dunmow, Clare, and Bury, than to take the road through Chelmsford, Colchester, and Ipswich. C. denies this assertion. B. then says he can *demonstrate* the truth of his proposition; and forthwith proceeds to compute the distances from place to place; that is, he affirms, in due succession, a number of *admitted truths*; such as that Romford is twelve miles from London, Brentwood six miles from Romford, and so on throughout the route; and he connects and computes these several distances on admitted principles, and truly sums up the entire series. So far this is a demonstration, and is unanswerable when compared with a similar computation of the other route. But C. replies, ‘You have indeed demonstrated that the road through Dunmow is *shorter* than that through Chelmsford; but yet have not convinced me that one had better go that way than the other; on the contrary, I can bring an *argument* to prove that the longer road is actually preferable to the shorter; and that in fact time will be gained by going eight

or ten miles about.' For this purpose he affirms a number of facts, none of which perhaps his opponent will deny; but which are of too indefinite a kind to form part of a mathematical demonstration, although very proper to be considered in the general argument. These indefinite facts are such as—the narrowness and ruggedness of the roads—the probable delay arising from the want of horses, and so forth. Now these assertions, though founded in truth; may have been misstated or exaggerated; and hence it may become necessary to examine each separate proposition, of which the general argument consists; and the disputants must agree upon all the particulars, before they can agree upon the conclusion.—That is to say, the necessary conditions of every sound argument must be complied with on both sides; each proposition must be assented to, and its connexion with the one which precedes, and the one which follows, must also be admitted by both disputants.

It is evident then that an argument is strictly conclusive only when all the facts contained in it are truly known by the disputants, and are understood also in their relation one to another. An argument is of no avail for discovering things unknown; but can serve only to *set forth*

the connexion of a certain fact with another, which, hitherto, we have not perceived to be related to it.

A very large proportion of all controversies are fruitless and inconclusive, simply because the disputants, on both sides, in their eagerness to carry their opinion, or to confound their opponent, assume many things to be known and unquestionable, which are not so; or because they neglect to ascertain the sense in which they themselves use the terms they employ; at the same time they refuse to give due attention to the explanations of their opponent's meaning. Thus argument is converted into wrangling; and often terminates in a personal contest. Thus it is, too, that differences of opinion are perpetuated, and that men learn to love truth only when it favours the faction to which they attach themselves, and to hate and fear it when it favours an adversary. Beside that accuracy and strength of understanding which is the first requisite in the discovery of truth, it is not less necessary to possess a conscientious preference of truth to interest, favour, or prejudice, and especially so when religious principles are in question. In this instance there is need that the mind should be freed from those evil inclinations and those uni-

versal corrupt prejudices which belong, in greater or less degrees to every human mind, and which render every mind inimical to the great principles of Christianity.

ARRANGEMENT,

Differs from Classification, which is a sorting of things according to their real differences; whereas this is a sorting them for some particular purpose, in the manner that may be prescribed by special reasons of convenience. The books of a library may be *classified* according to the subjects of which they treat; or they may be *arranged* in that order which will bring those most often wanted within reach. It is often of more practical importance to *arrange* our thoughts in an artificial manner, such as shall give the mind a ready command over its stores, than to think precisely in the mode that is rigidly philosophical.

Skill and address in the arrangement of our thoughts is peculiarly advantageous to those whose business it is to teach or to persuade others; while habits of analysis, classification, and abstraction, are proper and indispensable to those who addict themselves to the discovery of truth.

ART,

Is distinguished from science, rather by an accidental, than a real difference. Art is the knowledge of general facts, and science is so too. But it is only that part of such knowledge which is immediately convertible to practical purposes that is called *art*; while that which is either not at all applicable to common purposes, or only so in a remote manner, is called science. A knowledge of the chemical laws of fermentation is applicable to the preparation of an ordinary beverage, and when so applied is called the art of brewing. If no such fermented liquor were in use, then the knowledge of the same facts would stand undistinguished, as part of the science of chemistry.

The art of navigation (in a principal branch of it) is an *application* of the knowledge of the places and movements of the heavenly bodies, to the purpose of ascertaining a ship's latitude and longitude. If men never adventured themselves upon the wide bosom of the sea, they might still know *the same facts*; but would call their knowledge science. In the natural order of discovery, art, in a rude form, precedes science; and then science instructs art; and again, these amended arts give man so much command over the operations of nature, that

wealth is accumulated ; and many individuals, in every community, are, by that means, set free from the necessity of labouring for subsistence, of whom some addict themselves to the cultivation of philosophy, from the influence of mere taste. In this manner new discoveries are made ; and these, more or less directly, improve the arts of life ; and so a perpetual advancement goes on by the mutual influence of mechanical skill and philosophical principles.

ASSOCIATION OF IDEAS.

It is the law or usage of the human mind long to retain any connexion, even of the most accidental kind, which has once been formed between two or more thoughts or states of feeling. If one of these linked or associated ideas is brought back to the mind, the other, most often, returns with it. No one can need instances of this sort to be mentioned, for every moment presents them to every mind. It is however important to distinguish what may be called the *natural*, or spontaneous association of ideas, from that which is the consequence of certain habits of the mind. The law of spontaneous association shows itself most completely in dreaming, when ideas of all kinds

follow one the other, in a disorderly and fantastic manner; and yet so that we can (when dreams are recollected with sufficient distinctness) often perceive the link or tie which made one image succeed to another. In musing or *reverie* the same law of accidental connexion makes itself apparent in the succession of ideas and emotions. The prattle of children, and the idle chat of uncultivated or frivolous persons, very commonly presents the same sort of fortuitous succession of ideas, connected only by incidental and unimportant circumstances of similarity, or of juxta-position, in time or place. The strength and culture of the mind may be fairly estimated by the degree in which it ordinarily yields itself to this current of spontaneous or accidental associations.

When certain habits of mind have been formed and settled by exercise and application, they displace and supersede, to a great extent, the law of accidental association. A mind naturally vigorous, and which has acquired much control over its movements, and has addicted itself to particular employments, no longer follows the fortuitous course of ideas; but pursues, in some one chosen path, the *real* or rational connexion of ideas one with another. That is to say, the idea which follows the one

last present to the mind, will be that which in fact and nature, is the most nearly related to its predecessor. Thus, if the whole series of ideas were expressed or uttered, those who listened to it would not have to search for the link which connected one thought with another, but would perceive it in the very nature of the subject.

The mathematician, the mechanician, the statesman, the poet, the artist, the man of business, each acquires his proper habit of association, and each is prompt and successful in his line, just in proportion to the *rationality* and the *closeness* of the connexions that have been formed in his mind. This principle of the association of ideas is sometimes, or by some writers, called the law of *Suggestion*. The meaning of the two phrases is much the same.

ATTENTION.

Not even the most frivolous, childish, or feeble mind, is always, or entirely, governed by the fortuitous association of ideas (spoken of in the preceding article.) Nor how strong soever may be any particular habit of thinking, is any mind absolutely incapable of breaking off its customary meditations, and of fixing itself upon

another set of ideas. Every one is conscious of possessing a power (more or less perfect) of detaining some one thought, or class of thoughts, in the mind, and of considering, or viewing a particular subject successively, in all its parts and relations. This power is called Attention. It is the proper and distinguishing excellence of the human mind; and, in connexion with the faculty of abstraction, forms the essential difference between man and the brute, as well intellectually as morally. The degree in which it is possessed distinguishes also one human mind from another.

The exertion of this power of attention supposes some motive or desire to be present, or some inducement to be within view, which attracts the mind in one direction rather than another. It is a great excellence in the mental conformation, when a *tranquil* motive will ensure a high degree of attention; and moreover, when attention can be readily and fully transferred from one object to another; and it is a still higher excellence when attention can be given in an *efficient degree*, to several objects at the same time.

A *sluggish* mind is one which can be roused to attention only by the most urgent or stimulating motives. A *weak* mind is one that may

be quickly roused to attention, but which as quickly spends itself by the effort. An *acute* mind is one that is capable of a very vigorous, *momentary* effort. A *profound* mind is one capable of long-continued attention, upon the same subject; and which can sustain its attention by motives of the most tranquil sort. A *comprehensive* and *efficient* mind is capable, both of long-continued efforts of attention, and of what may be called multifarious attention: that is to say, it does not *lose itself* in its regard to a single class of ideas, but sees all objects in their various connexions and dependencies. Yet whatever may be the natural power of the mind, in these respects, it is susceptible of vast increase and improvement, by a well conducted education. Indeed the difference between an educated and uneducated person (supposing their natural faculties to have been equal) is manifested in nothing so conspicuously as in the greater command over its powers of attention which the former has acquired.

ATTRIBUTE;

From *attribuo*, to give to, or impute. A quality, or manner of feeling or acting, asserted to be essential to any being, is called an attri-

bute of that being. The word expresses or implies the act of assigning such or such a property to a substance or person; and is most often employed in theology, and when the divine perfections are spoken of.

AXIOM;

From ἀξίωμα, a sentence or affirmation, worthy to be received. By philosophical usage the term is applied only to propositions that are at once unquestionable, or self-evident and *fundamental*; or important, on account of the consequences which flow from them. Mathematical axioms are such as—That the whole is greater than any of the parts; or, that equal things, added to equal, make equal. Metaphysical axioms are such as this—That there can be nothing more in an effect, than was contained in its cause. It is an axiom in morals, that the will of God is the rule of right and wrong.

BEING:

The most comprehensive of all simple abstract terms. It expresses the notion which results from our own consciousness, thought of as *a whole* :—we feel that we *are*, or that we exist. God is emphatically called the Supreme

BEING ; both because He, and He alone, is self-existent ; and because He is the author or cause of all other existences.

BELIEF,

Is that state of mind which is produced by arguments that appear to be good, or sufficient. Belief rests upon evidence of the kind that is not absolutely demonstrative, or irresistible ; hence it is susceptible of various degrees of strength, proportioned either to the intrinsic force of the evidence, or to the power of the understanding to perceive its force. There is much difference in different minds in this respect. Some instantly and clearly discern the soundness of an argument, or the consistency of testimony, and retain ever after an unshaken conviction of the truth of the fact or principle as so established. Other minds can but confusedly catch the connexion of reasons or evidences, and almost immediately lose whatever rational conviction they may, for a moment, have acquired ; or if they adhere to their *opinion*, do so blindly, and often with many secret misgivings. Some, on the other hand, incapable of comprehending evidence, or impatient of the effort necessary for the purpose,

embrace opinions, just as they choose their friends, by favour and prejudice, and adhere to them with a passionate resolution, and defend them with vehemence and dogmatism.

It is a general, though not universal principle, that the calmness or the violence with which matters of belief are entertained, bears proportion to the soundness or the unsoundness of the mental process by which conviction has been attained. Those who by patient attention to argument have convinced themselves of the truth of certain opinions, are, for the most part, ready to exercise patience and forbearance towards an opponent ; while he who is conscious of being unable to give a good reason for his belief, betakes himself either to flippancy and banter, or to contumely, when his opinion is impugned.

It is important to remark that, in almost all the affairs of life, even when the most momentous interests, or life itself, are at stake, we are ordinarily required to act upon the strength of *rational belief*, and must not wait for demonstration, or certainty. Nay, on some of the most signal occasions, we proceed on the ground only of some probable opinion, which falls very far short of full persuasion. But it is found (if a large number of instances are

taken into the account) to be more advantageous, and less really hazardous, to act, and to venture upon some degree of probability, than to adhere habitually to the impulse of a suspicious and timid caution. It is *on the whole safer* to be bold and believing, than sceptical. In by far the larger number of instances, we are called to rely upon testimony, rather than to act upon our personal knowledge of facts; and it is found that human testimony (if certain cases are excepted where there is a peculiar temptation to falsify) is a very sufficient ground of confidence. It is so especially when testimony is supported by incidental proofs (see TESTIMONY). To withhold belief in such cases, evinces either an infirm judgment or a petulant and captious temper.

It is by no means always the case that we have the power of understanding the whole of what we are required, by good evidence, to believe. The contrary most often happens; that is to say, a certain fact is fully established, and yet nothing more is known than the general fact, or than its *external* significance. In the mathematical sciences there are not few propositions which, though demonstrably certain, are at the same time apparently incredible or impossible; so that though they cannot but be

assented to, they can never be followed home by the human mind. Nevertheless, such facts or principles are taken confidently as the foundation of other principles. There are other truths which, though not seemingly *incredible*, yet so surpass the powers of the human mind to grasp them, that, while they are necessarily admitted as certain, we can advance no further, or little further, than to blind assent. Of this sort is the notion of eternity—or of duration, without beginning, as well as without end: and of this kind, too, are other great principles of natural religion, and much that relates to the omniscience, the power, the providence, and the moral government of God. These are subjects concerning which certain comprehensive propositions may be affirmed, with the most perfect confidence, even while the mind feels its utter inability to comprehend what it assents to, or to reconcile one such principle with another.

Those hidden powers that are developed in the movements and changes of the material world, such as gravitation, chemical and magnetic attraction, electricity, vegetable and animal life, and so forth, demand assent, while nothing concerning them can be understood, beyond the external facts which make themselves known to

the senses. Nothing then can be more absurd, or unphilosophical, than the determination expressed by some persons that they will believe nothing which they do not understand. To carry such a purpose into effect on all subjects, would be to reduce a man to universal ignorance and idiotcy. Rational belief stands midway between credulity and scepticism; both of which are faults, as well of the understanding as of the temper. Credulity is the error of sanguine, imaginative, and weak minds, which, in their eagerness to receive and hold whatever dazzles the fancy, or moves the sensibilities, or awakens pleasing emotions of wonder and admiration, believe whatever, of this sort, may be presented to them, without inquiring upon what evidence it rests, or perhaps rejecting contrary testimony. It may be noted as a frequent fact, that those who believe the most readily, and in opposition to reason, are the most slow to believe, or hard to be convinced, where evidence is good and abundant. The cause of this is easily assigned. — Good evidence appeals to the understanding; but the credulous have, by the long indulgence of their credulity, enfeebled their understandings, and have become actually *incapable* of perceiving the force of argument: at the same time, the fruitless effort which they may make

in a single instance, to do so, chills and confounds the mind, and dispels those lively feelings of confidence with which they are wont to entertain other convictions. They can believe only by impulse, not by reason.

Scepticism, though apparently an opposite error, not seldom proves itself to be nearly allied to credulity: the reason is, that both spring from infirmity of the understanding, or what might, if we were to use a figurative expression, be termed a *paralysis* of the reasoning faculty. By pride, or jealousy, or petulance, or coldness of temper, the habit of distrusting all evidence has been indulged, until it has grown so strong, that even the most conclusive reasons fail to take effect upon the mind: all things appear alike uncertain; a dimness affects the faculties. But as the human mind cannot exist without its convictions, of some sort, it often becomes, in this enfeebled state, the prey of some childish delusions. Many noted sceptics have been absurdly superstitious, or credulous, in certain particulars. It may be affirmed that credulity is, on the whole, much less absurd, and less mischievous too, than scepticism; because it is less at variance with the constitution and course of the system in which man is placed. Upon the great field of human life, *belief* is the general

rule ; *disbelief* belongs only to the *exceptions* from that rule : he, therefore, who *always believes*, will be much less often in the wrong, than he who *always doubts*. The credulous has the mass of ordinary facts on his side ; the sceptic has only the single instances.

CATEGORY.

Κατηγορία, a class of things concerning which something is affirmed *absolutely* ; not hypothetically, or liable to a condition. This is a technical term of logic. In popular use, a categorical assertion is a positive one, admitting neither of exception nor uncertainty.

CAUSE *and* EFFECT.

The human mind is not merely acted upon through the senses, by external objects, but it acts also upon matter : that is to say, upon the muscular system ; and by that means upon foreign bodies. It also acts upon its own thoughts, changing and ruling them at pleasure. In consequence of this constitution of our nature, we produce many changes in the things around us. The consciousness of being able to do so, generates the notion which is called **POWER** ; and then whatever has, or *is imagined*

to possess, a power to produce changes in other things, or in itself, is called a *Cause* ; and the change so produced, is called an *Effect*. The words *cause* and *effect* are a pair of inseparable or correlative terms, indicating the presence or the *supposed* presence, of that faculty to produce changes which we feel to belong to our own minds, and which we call power. In the exercise of this power of mind, we first imagine, and invent, and contrive, and then, by muscular actions, we put the material substances around us into new forms, corresponding to the conception we had formed ; and these new combinations of matter are found to answer the end we had in view. Now this ordinary process of our own minds furnishes us with a very simple and convincing argument, whence we infer the existence of an Almighty and Intelligent Being, who, in a far higher degree than ourselves, possesses both reason and power ; the effects of which are displayed on every side, in the admirable contrivances of the material world. We thus attain the idea of a First Cause ; and assign to it all that actually exists, as its effect.

Having acquired, from our consciousness, the notion of power, followed instantly by some proper effect, we fall into a natural, and almost involuntary custom, of imputing or imagining

the existence of power, wherever we find some one event to precede immediately and invariably another, which is called its effect. We carry this supposition much farther than we are philosophically warranted in doing, and thus learn to speak of the powers of nature, of the power of chemical agents, &c., when, in truth, we know nothing but the fact, that a certain particular event always follows another. The warmth and the showers of spring are followed by the bursting of buds, and the rise of plants from the earth;—the rising of the sun is followed by the ascent of mists from the valleys;—the friction of two hard bodies is followed by a sensible heat;—and in these, and innumerable other instances, we unthinkingly impute *power* to the antecedent event, calling it the cause; and call the consequent event its *effect*. What may actually be the nature of the connexion between the one and the other is absolutely unknown: but it is only in an improper sense that any material substance can be called a cause. Whenever, even by a mere coincidence, one event has been observed frequently to accompany another, there is a propensity in the mind to regard the first as the cause of the second.

But we never suppose this without, at the same time, imputing to the one some sort of in-

fluence over the other. Thus, when in the minds of the vulgar, certain trivial occurrences, such as the croaking of a raven, or the breaking of a goblet, or the spilling of salt, are supposed to be the precursors of calamity, there is also imagined to exist an invisible influence, which connects the one event with the other.

The mere connexion or sequency (as it is called) of events, does not give rise to the idea of cause and effect, unless there be room (whether justly or not) to impute power to one of them. If, by the road-side, mile after mile, trees are seen to be growing in pairs, no one imagines that the first tree in each pair is the cause of the second. But when it is seen, on a large meadow, that wherever a heap of decayed vegetable matter has lain, the grass is much more rank than in other places, it is involuntarily believed that the heap was, in some manner, though unknown, the cause of that increased vegetation. It may, perhaps, hereafter be discovered, that there is nothing in the manure which can, with any propriety, be called *power*; nevertheless it is certain that there is some *relation* between the chemical properties of the manure, and the growth of the plant; just as there is a real relation between the act of putting a weight into a scale, and the rise of the

opposite end of the beam. This relation, whether known or unknown, being *real and constant*, may, without inconvenience, be spoken of *as if* it were cause and effect. It is only necessary always to recollect that *power*, in the full and strict sense of the word, belongs exclusively to MIND ; and that what are called the *powers of nature* are nothing more than secret relations, between one property or form of matter and another.

CLASSIFICATION,

Is the sorting of things that differ in some respects, and are alike in others : the greatest *difference* being the rule of *separation*, and the greatest *likeness* the rule of *association*. Classifications are always founded on some real and intrinsic qualities of the things sorted ; whereas *arrangements* are founded upon *accidental* qualities or circumstances. Arrangements are made for convenience and the accomplishment of a particular purpose. Classifications are formed for the permanent advantage of the mind, which can become conversant with a multitude of objects only when they are distributed into sorts, corresponding with their real and intrinsic distinctions. An analysis is made by observing differences only : a classification is accomplished

by looking, first at resemblances, and then at differences. An analysis serves to make us acquainted with things of which hitherto we have been ignorant. A classification is useful for presenting a simple and comprehensive view of things already known.

The assortments that are made of the objects of natural history are properly called classifications, and are affected by bringing together all the animals that agree in some one distinct and *unalterable* peculiarity, such as shall be liable to no uncertainty, or confusion, in particular instances. Thus, according to the system of Linnæus, all animals that suckle their young are included in one class called Mammalia. All birds are included in another; all that live indifferently in air and water, in a third; all fishes in a fourth; all insects in a fifth; and worms in a sixth. But then, if all the animals of the first class, for example, are brought together, it is found that, though alike in the important circumstance of suckling their young, they are unlike in a thousand other particulars; so that it becomes necessary *to classify this class*. For the purpose of doing so with precision, another particular and invariable circumstance is fixed upon, and which is liable to no uncertainty. Such is found to be the number and position of

the teeth ; and there are known to be seven constant forms of diversity in this particular ; which therefore divide the class MAMMALIA into seven *orders* . Again, each order comprises animals widely differing one from another, and needing, therefore, a new classification, for it brings together men, monkeys, rabbits, and bats. These are sorted into four *genera*, or kinds. But each *genus* has also different kinds ; as, for example, the monkey tribe, of which there are almost innumerable varieties : these varieties of a *genus* are called *species*. Thus, it appears, classification must be carried on so long as any number of beings are observed to agree in one or more particulars (if those particulars are definite and constant) and yet to disagree in others.

COMMON TERMS,

Or names, are words which, in consequence of some sort of classification, are applied to many individuals that are alike in some respects ; or in all but identity. Thus the word *animal* is a term *common* to all sentient, locomotive, voluntary, and corporeal beings. The word *quadruped* is *common* to all animals that have four legs ; the word *dog* to all quadrupeds of that genus ; and the word *mastiff* to a spe-

cies of dog. But Cæsar is *my* dog or *yours* : and though his name may be appropriated to ten or twenty dogs, it is proper to each as his individual distinction. Common terms belong to *things*. Abstract terms belong to *qualities*. Common terms are used in classification ; abstract terms are employed in generalization.

COMPLEX,

Is that which consists of several elements, which are to be separated, or made known by analysis.

CONCEPTION,

Is the bringing before the mind, by a voluntary act, some image of what has heretofore been perceived ; and which yet is thought of apart from any distinct recollection of past time, otherwise the idea would belong to memory. Sensation and perception take place when an external object is actually present to the senses. Imagination is *complex conception* ; that is to say, it is the joining together of images, in new forms, or combinations. We entertain the *conception* of a palace ; but we *imagine* a palace of gold, or a river of molten brass, or a centaur, or a griffin. The power of vivid conception is

important to the poet; for the mind works from the stock of its *conceptions*, not from its immediate perceptions:—but it is still more important to the painter, who can only become a mere copyist, if his conceptions are faint or confused. Propriety of description, and appropriateness and copiousness in the use of language, depend in a great measure, upon the vigor of the faculty of conception.

CONCLUSION.

A single affirmation is a proposition:—as that A is equal to B. But if it were necessary to prove this equality, by stating, in a series of propositions, the component parts of A and B; then this last affirmation, which brought all the preceding ones to a point, would be the *conclusion*. The last proposition in an argument is not called the conclusion because it *concludes* or finishes it; but because it is the truth, for the sake of which all the preceding propositions were advanced:—it is that which comprises, or *shuts up in one*, the train of facts, bringing the last into contact with the first, as thus:—1. An habitual disregard of truth draws upon a man the distrust and contempt of all who have to do with him. 2. But if a man be the object of

distrust and contempt among his neighbours, he will be compelled to deal with them always under a great disadvantage ; for his most solemn asseverations in matters of fact will produce on their minds an impression the very reverse of that which he intends ; so that he becomes his own adversary whenever he urges his rights or his pretensions. 3. But he who labours under a disadvantage of this sort, will find it a bar to his success, in whatever he undertakes. 4. *Therefore*, an habitual disregard of truth will, in most cases, impede, or utterly prevent a man's prosperity. This, then, is our *conclusion*.

CONCRETE,

From *concreresco*, to grow together, or to be formed into a mass. When a quality is spoken of as joined with other qualities, the word expressing it is used in a *concrete* form ; as *white* paper, *equitable* conduct ; *whiteness* and *equity* are abstract terms ; that is to say, the qualities are spoken of apart from any particular substance. Or all the properties of a thing are spoken of together, as a whole, and that whole is—the *concrete* ;—opposed to the abstract.

CONSCIOUSNESS.

This word, though used often in an indistinct manner, is employed most properly when taken to represent the mind's act of *looking in upon itself*, as the *subject* of all its feelings and various operations. The mind, most commonly, is engaged fully with some sensation, or conception, or emotion, or abstract idea; but sometimes it reflects upon itself as the permanent and identical *feeler* and *actor*. The faculty of memory is especially concerned in this notion of consciousness; and when the mind thus, and with the aid of memory, looks inward, it gains the notion of personal identity. It is however plainly an error to suppose that identity *consists* in this notion of it; so that if a man retained no recollection of yesterday, and did not at all think of *self*, he would not in fact be the same to-day that he was yesterday.

CONDITIONAL.

Whatever will not *be*, or will not *happen*, or must not be affirmed, unless something else exists, or happens, or is true, that dependent fact or proposition is *conditional*. “*If it be fine to-morrow*, I shall walk to town:” the event of my walking then is *conditional*; not absolute.

If virtue is to be tried, men must be placed in circumstances wherein they are tempted to do wrong. That men *must* be exposed to temptation, is not true, or certain, *unless* it be true, that virtue is to be tried.

CONSEQUENT.

In a conditional proposition, such as the one advanced above, the second affirmation, which depends upon the first, is the consequent.

CONTINGENCY ;

From *contingo*, to touch upon, or happen. In popular language, whatever event takes place of which we do not discern the cause, why it should have happened in this manner, or at this moment, rather than another, is called a contingent event ; or an event without a cause : as for example, the falling of a leaf on a particular spot, or the turning up of a certain number, when dice are thrown.

But any one who reflects must perceive that though, in familiar speech, such expressions are allowable, there is no philosophical propriety, that is to say, *no truth* in them.

Contingency and chance are words of no positive meaning ; but which may yet be con-

veniently employed when we have to express our absolute ignorance of the cause of an event. The leaf falls on a particular spot in consequence of the combined influence of gravitation, and the movement of the air : and if we could know precisely the force and direction of the wind, when the leaf was floating in the air, we might, combining this with the laws of gravitation, predict the spot on which it would alight : —and then, we should no longer speak of that event as contingent. The rising of the sun to-morrow is not spoken of as a contingent event, because it is thought of as certainly following from the established order of causes. But the fineness of to-morrow we think contingent, because we are ignorant of the many causes upon the concurrence of which fine weather depends. Yet, if we knew all the laws of the atmosphere, and the actual state of the lower heavens to-day, then the fineness, or the rain and wind of to-morrow, would be spoken of just as we speak of the rising of the sun.

And thus too the future actions of men are thought of as contingent, because the motives of human conduct are far too multifarious, too much hidden, and liable to too many disturbing influences from without, to be known, or even surmised beforehand. We can go no further

in our anticipations of the conduct of men, than to say conditionally—if such and such events take place, it is probable that M. or N. will act in this or that manner. Our notion of contingency and of certainty depends so much upon our knowledge or ignorance of causes, that involuntarily we think an event that is to happen to-morrow, much less contingent than a similar event that is to take place a year hence ; although it is evident, both stand precisely upon the same ground, as to the causes whence they are to spring, or by which they are to be governed.

Every event has a cause ; in this sense therefore nothing is contingent. But in philosophical language there is another, and a very proper sense of the word contingency, and which is nearly synonymous with the word *condition*, and is opposed to the word necessity. Mathematical principles are *necessary* ; that is to say, nothing could make them otherwise than they are. It cannot even be imagined that the three angles of a triangle should be equal to less or more than two right angles. The existence and attributes of God are also in the same sense necessary. But the existence of any particular creature, or class of creatures, or the actual conformation or powers of such

beings, are *contingent* ; that is to say, they might not have existed at all, or they might have been otherwise constituted than they are.

CONVERTIBLE TERMS

Are such as may be exchanged, the one for the other, without affecting the sense, or destroying the truth of the proposition in which they occur. Convertible terms are not always *synonymous*, or of the same meaning abstractedly ; but yet they are of the same *value* in a particular instance. Man is responsible to his Creator for his conduct.—Every moral agent is responsible to the Supreme Being for his actions. In these two propositions we assert the same general truth ; but in other terms, and in reference to *such a proposition*, the words *man* and *moral agent* ;—and the words *Creator* and *Supreme Being* ; and the words *actions* and *conduct*, are convertible ; though not synonymous. If they were strictly synonymous, we might employ them *on all occasions*, the one for the other without error. But this is not the fact. We must not say every moral agent is mortal ; for angels are not so ; nor say every man is responsible for his actions ; for madmen are not so.

CORRELATIVE TERMS

Are such as have no sense, strictly speaking, apart from some other. Thus the words *father* and *son*, *husband* and *wife*, suppose, or tacitly include the other term. The words *creature* and *Creator*, *king* and *subject*, and all adjectives of comparison, are correlatives. If we speak of something that is better, or greater, or wiser, we suppose something worse, or smaller, or less wise.

DATA,

The plural of *datum*, a thing given or granted. Those facts or principles which are known and acknowledged, and from which inferences are to be drawn, are called the *data*: as when the actual order and position of mud, clay, sand, rock, &c, in the crust of the earth, are described, these are the data, whence some theory is to be derived that shall adequately explain the formation of that crust.

DEFINITION.

To define a thing is to mention some particular mark, or circumstance, which universally and infallibly distinguishes it from those things to which it is most nearly allied. A definition

consists of the *genus* and the difference ; that is to say, it mentions the *class* to which the thing belongs ; and then what makes it to differ from other things of that class. One infallible mark is enough for a definition ; for if an object be but made known beyond possibility of mistake, whatever more is added, contributes nothing to our certainty. What is added to a definition is *description*. An elephant is a quadruped (this is the *genus*) having an elongated and flexible proboscis (this is the *difference*). If we go on to say that his color is a dingy brown ; his ears large and pendulous ; his tail like that of a hog, &c., this is description.

The definition of words is not like the definition of things ; for the ideas attached to words are variable and vague, and dependent upon the knowledge, prejudice, and habits, of those who use them. To define the sense of a word is to *describe* the thing, or notion, to which we apply it. We can fix our meaning, or secure it against mistake, only by declaring, as often as necessary, that we intend by it such and such things, or notions. By the word *virtue*, some persons understand mere fortitude and manliness of character ; others understand by it only the avoidance of open offences against justice and temperance ; while those who think and

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speak more accurately would apply the word virtue to nothing less than that *universal goodness* which springs from the love of God, and of our fellow-creatures. But, in so using it, we must guard against common errors by affixing to our discourse a *description* of our notion, which may serve to *define* the sense of the term.

#### DEMONSTRATION,

Is a showing or making manifest. Demonstrative reasoning is applicable only in those cases where the objects to which it relates may be fully seen and known, as it were by a glance. If some degree of obscurity or uncertainty belongs to any one of the things spoken of, no *demonstration* of the truth of the proposition can be had ; or before the argument can proceed the obscurity must be cleared up by a full examination of the obscure portion of the problem. When it is affirmed that 2 and 3 are equal to 4 and 1, the mind at a glance, or by an instantaneous effort, perceives the truth of the proposition ; or even if it could be doubted, it might be rendered incontestable by taking five counters and dividing them into two parcels, first of 3 and 2, and then of 4 and 1. But if it be said that 342 is a 7th part of 2,394, although

this affirmation is equally certain and *demonstrable* as the other, there are very few minds that would instantaneously perceive the truth of it. And it will therefore be necessary, before it can be intelligently assented to, as an unquestionable truth, to *dissect* it, if we might so speak, or to attend separately, to the particulars of which the proposition consists: and in going through such a dissection each of these particulars will be an affirmation or axiom, so simple that the truth of it may be perceived at once. The arithmetical processes of division, multiplication, &c. are nothing else than concise methods of attending in due order to all the constituent parts of a complicated proposition, and by this means of ascertaining the amount of the whole. After we have so attended to each part, we may rely as fully upon the truth of the result as we do upon the certainty of the simplest proposition. It makes no difference in the certainty of a mathematical product, whether the path by which we reach it is long or short. Thus for example, to discover at what instant of time an eclipse of the moon will take place fifty years hence, may require a very operose and complicated calculation; nevertheless the fact, though future, may as certainly be known as that 3 times 9 are 27.

The great *practical* difference between what is properly called demonstrative reasoning, and the other kinds, is this, that the one is capable of being drawn out to any length, without increasing the probability of error. But in every other kind of argument, if we pass circuitously through a great number of propositions, several of which are in some degree obscure, the probability of error is great. In such cases the only satisfactory means of attaining certainty is by endeavoring to establish the same point in several independent lines of argument. But when a proposition has been so established by two, three, or more series of proofs, which though distinct and unconnected, meet all in the same point, we may rely upon the result as confidently as if it were, in the strictest sense, demonstrated. For nothing but truth can give consistency to a multitude of insulated facts. It is thus that, in courts of justice, the guilt or innocence of the accused is placed beyond all doubt by the agreement or discrepancy of several independent lines of evidence ; as, for example, when the accordant testimony of a number of unconnected witnesses is confirmed by its coincidence with facts, the truth of which is ascertained in some manner that has no connexion whatever with that testimony. And it is thus

too that the truth of Christianity may, with strict propriety, be said to be *demonstrated*: inasmuch as the assumption of its truth is the only means of reconciling a vast number of independent facts, which facts rest upon evidence that is not to be disputed. If some *one* line of argument were thought to fall short of absolute certainty, the doubt is removed by the agreement of that single argument with three or four other series, or chains of evidence.

#### DESCRIPTION,

Differs, as we have seen, from definition. A description is complete when it has enumerated the most obvious or remarkable peculiarities of an object; a definition is complete when it has fixed upon the single peculiarity which distinguishes the object from others nearly resembling it.

#### DESIGN.

What does not take place by accident, nor is effected simply for its own sake; but is the fruit of an intelligent purpose to produce a certain effect, is said to be the result of *design*. That is to say, it indicates, not merely the presence of some power, producing a change; but of knowledge also, and of choice or intention.

The fitness or relation of cause and effect, it is manifest, has been perceived; and that same effect has been *desired* by the Power that produced it. Design implies—motive, knowledge, and power. When a house is overthrown by a hurricane, it is true that the velocity of the air was a proper means for effecting the overthrow; but there was no purpose or intention in the tempest to produce this effect. We do not always suppose the presence of an intelligent power whenever we perceive means conducing to an end. As, for example; if, in travelling over a desolate region, we find the trunk of a tree, lying across a deep and rapid stream, so as to form a bridge, it is by no means certain that it was placed there for any such purpose; it may have fallen in that position from the spot where it grew, in consequence of the decay of the root on the side next the stream. Some other than an intelligent cause might have produced the effect. But if we find three or four trunks of trees, laid in order across the stream, and firmly bound together, there is then not merely a *combination* of things subserving an important purpose—not merely a fortunate coincidence, but it is such a combination as bespeaks intelligence: there is a *language* in this combination which we understand, and which



says—a mind—a *knowing power* has brought these things together, and for a specific purpose. It is then, 1st, a combination of parts ; and, 2d, a combination effecting some special object ; and, 3d, a combination showing that the real relations of things have been understood, which proves the existence of an intelligent cause. It is thus that we infer irresistibly the being and agency of the omnipotent and omniscient Creator from the organization of plants and animals ; and indeed from the entire structure of the material system.

#### DIFFERENCE,

In a logical sense, is that one quality, or circumstance, which distinguishes a thing, or a set of things, from others which it resembles in other respects.

The *difference* makes the *species* within a *genus* ; and to name the *genus* and the *difference*, is to give a definition. The circumstance of not shedding its foliage in winter, is the difference which distinguishes one species of oak from others.

#### DISJUNCTIVE PROPOSITIONS,

Are those in which something is affirmed as true of *some one*, of two or more things that

are mentioned ; as—The vase was broken by James, or Thomas, or John ; *one of the three* must have broken it. If then we can prove that it was not broken by James, nor by John, the conclusion follows that Thomas broke it.

## DILEMMA :

Δίλημμα, when two conditional propositions are advanced, out of which a choice must be made, a *dilemma*, or, taking hold of two ways, is said to be presented : as thus ; it might be said to a servant, “ You were present when your master’s house was plundered ; or you were not. If present, you connived at the robbery, by not resisting or revealing it. If absent, you abandoned what had been committed to your care ; and, therefore, in *either case*, you are culpable.” The servant in this case could not escape from the dilemma.

## DISPOSITION.

*To dispose*, is to place a multitude of things in a particular order, for the sake of convenience. The word *arrangement*, which is nearly of the same meaning, is properly applied to *things* : the word *disposition*, to the ideas or themes of a discourse.

## DISTINCTION,

Is the expressing, in words, some difference which has been observed. To make a distinction without a difference, is, therefore, to utter an unmeaning proposition: as if one were to say, "I deprived you of your rights; but I did you no wrong."

## DISTRIBUTION,

Is the assigning of things to the places or compartments which have been prepared to receive them. There must already have been a classification of some kind, when a distribution is made. Minds fond of classification, and of order, think very much by the method of *distribution*; that is to say, whatever new subject is presented to their consideration, they rid themselves of perplexity, not so much by a strict and true *analysis* of it, as by distributing the parts of which it seems to consist, according to their customary mode of classifying all things.

## DIVISION,

Is the separating one and the same thing into parts, or parcels, one of which is of the same quality as another; it is therefore distin-

guished from *analysis*, which is the separation of the *unlike* component parts of a compound body.

## DOUBT,

Is some degree of belief, or supposition, that what has been affirmed is true. Disbelief is *knowledge* that it is not true. To admit a proposition carelessly, or without regard to evidence, is credulity : to affirm such a proposition positively, and authoritatively, is dogmatism. To refuse assent to evidence, proportioned to its force or validity, is scepticism ; that is to say, it is to prefer doubt or ignorance to knowledge, in some instance where a degree of certainty is actually attainable. For any one to profess to disbelieve a proposition when he does not *know* that it is false, is an absurdity of the same sort as to embrace opinions without evidence : it is a real dogmatism concealed under the affectation of avoiding dogmatism.

## DURATION

Is successive existence. *Time* is successive existence measured into equal parts. We acquire the notion of duration, or of continuous existence, thus :—when a thought, or sensation, or feeling, ceases to engage the *principal* atten-

tion of the mind, it does not instantaneously and entirely disappear ; but seems gradually to fade or retire, while another image or sensation is taking its place ; just as when, in travelling, the objects we have passed keep in sight for a while. The mind does not pass from one state to another by sudden starts, but by insensible transitions. We learn in this manner to think of continued existence, or of *successive consciousness*. And moreover by the constitution of the mind, an image, or sensation, or feeling often returns to it after a long interval has elapsed, accompanied by the particular circumstances which were joined with it when first it occurred ; and we are then impressed with the conviction that it is not new to the mind, but a repetition only of what *long ago* occupied the thoughts : this is memory ; and memory, together with the insensible passage of the mind from one state to another, imparts the notion of duration. In a manner analogous to this, we acquire the notion of extension by touching *successively* the contiguous parts of a solid body, and by fixing the eye, *successively*, upon its parts. The notion of extension is acquired by means of the senses ; the notion of duration is purely mental.

## EFFECT,

Is, in a strict sense, a change produced by *power* (see CAUSE); but, in popular language, whatever event invariably and immediately follows another, in such way that the idea of power may be attributed to the first, is called its effect. Thus, the dissolving of ice before the fire, is said to be the effect of heat; it being supposed that heat has a power to dissolve ice. But if the facts be examined more attentively, it will seem quite as proper to say that water, in a solid state, has a power to bring heat into combination with itself, as to speak of the power of heat. The fluidity of water is the result of a mixture which takes place where the two elements are brought into contact; and it is fair to presume that it takes place in consequence of a fitness of the one to the other.

## ESSENCE.

All those properties, or qualities, which are supposed to be necessary to any thing, or without which it could not exist, are, when so existing together, deemed to constitute its *essence*. These *essential qualities* are distinguished from such as are accidental, or separable, or are mere *adjuncts*. Three right lines



joining are the essence of a triangle ; if one be wanting, or if the three do not fall one upon another, there is no triangle. But whether this triangle be formed by the tracing of ink upon paper, or by the junction of beams in a building, or by the stretching of cords on the earth, is a mere circumstance, not affecting the *essence*, and not altering any of its properties. A living body united to a reasonable soul, is the essence of a man : the form of that body may be varied, or its parts removed, and the dispositions of the mind changed : but the *man* remains, so long as body and soul are united.

#### EVIDENCE,

Is a fact, or a series of facts, adduced for the purpose of proving the truth of some other fact that has been affirmed. It is asserted that John Smith stole Samuel Brown's coat, and the *evidence* adduced is, the two facts, 1st, that John was seen to enter Samuel's apartment, during his absence ; and, 2d, that a coat, which Samuel knows to be his own, was found in John's possession : very little is wanting in this evidence to render it a complete proof of the alleged theft, and it may be deemed absolutely conclusive, if the additional fact can be ascertained, that John had been overheard, before the theft,

agreeing with a companion for the sale of Samuel's coat, if he could steal it. The conclusiveness of evidence consists in such a conjunction of a number of facts, that there remains only *one way* in which they can all be consistently explained ; and when that one way does actually bring them all to an agreement.

#### EXISTENCE,

Is the same as being. That which *is*, is said abstractedly to *be*, or to have *existence*.

#### EXPERIMENT.

When what is passing before our eyes is attentively observed, for the purpose of acquiring a knowledge of the causes, or established order of things, we are said to learn by *observation*. But we learn by *experiment*, when, for the same purpose, we put what we suppose to be *causes*, in operation. After certain events have been observed to take place, we form a conjecture as to the cause of them ; and on the ground of this conjecture, or *hypothesis*, as it is called, we make experiments. For example ; if the cause of the aurora borealis, or northern lights, is sought for, we observe the appearances they assume at different times ; and by comparing

these appearances—the colors, the coruscations, the movements—with those of the electric fluid, or of ignited gases, or of phosphoric fluids, we endeavor to trace the effect to its cause; or, at least, to establish a probable supposition on the subject. But these aerial changes are far beyond our reach, and therefore cannot be subjected to experiment. Not so that other atmospheric phenomenon—thunder and lightning. Dr. Franklin surmised that lightning is the same active and brilliant element which is produced by the friction of amber, and some other substances. This was his hypothesis, or supposition. To ascertain its truth, he flew a kite beneath a thunder cloud, having a small wire attached to the string. From the lower end of this wire he drew sparks which exhibited all the properties and appearances of those produced by an electrical machine: this experiment proved his first conjecture to have been well founded. The science of chemistry is almost wholly founded upon experiment: that is, the bringing of various substances together, for the purpose of discovering in what manner they act, one upon another. The mere observation of such chemical changes as take place in the course of nature, would afford a very limited

knowledge on such subjects, and would leave almost all doubtful matters undecided.

#### EXTENSION.

The notion acquired by the sense of touch, in moving the hand on the surface of a solid body, and by *comparing* this sensation with the sight of the same body, conveys to the mind the notion of extension. From this abstract idea we may separate the idea of solidity, or resistance, and it is then designated by the word *space*. Or we may add to it the idea of successive parts, numbered, and we gain the notion of *distance*. Or again, to the notion of extension may be added the idea of successive points, related to each other, and we then think of *figure* or shape.

#### FACT.

Either a *particular* event, proper to be adduced as *evidence*, in proof of something affirmed; or a *common* event, happening in the ordinary course of nature, and proper, therefore, to form part of an inductive argument (see INDUCTION), is called a fact. In the former sense, facts are the basis of judicial proceedings. A series of facts constitute a history. In the latter sense, facts are the materials from which the physical sciences are formed.

## FALLACY.

An argument which *seems* conclusive, but is not so, is fallacious; that is to say, deceptive. When such fallacies are designedly framed, for the purpose of misleading those to whom they are addressed, they are called *sophisms*. A fallacy takes place—1st, When some one of the things affirmed in an argument, and which is important to the conclusion, is not true. 2d, When the *connexion* between one fact and another is not truly stated. 3d, When the words implied are used in one sense, in one part of the argument, and in another, in another part: or when the sense assigned to such terms is so vague or ambiguous, that an error slips in, as it were, unperceived, in the course of the argument. For instance: the argument by which papists defend the usurpation of the bishop of Rome is fallacious, because the facts affirmed are not true, or not known to be as they are stated. Our Lord, it is said, conferred upon St. Peter a universal power, or jurisdiction, over the souls and consciences of all mankind; this authority St. Peter transferred to his successor, the first bishop of Rome; and it has, in like manner, been handed down from bishop to bishop, through all ages. To resist the au-

thority of the pope, is therefore to rebel against the Lord. Now even if it were granted that St. Peter received an authority of this kind from Christ, it is not true, or at least can never be proved to be so, that he transferred it to any other. Again, it is not true, or can never be proved to be so, that the first bishop of Rome was appointed by St. Peter, or was in any other sense his successor, than that in which Clemens, and Polycarp, and Ignatius, were the successors of Paul, and John, and Peter. This argument is also fallacious by its taking for granted the connexion of one fact (even if in itself true) with another. Again; the pretended proof of the real presence of Christ's body in the sacramental bread, is a fallacy, by attributing a *literal* sense to words which the nature of the subject, as well as our Lord's usual mode of teaching, demands to be understood in a tropical or figurative sense. And that such is the true value of the words is proved by applying the same rule of interpretation to other instances. To detect fallacies, requires that the truth of all the facts either *affirmed* or *implied*, should be inquired into; that the alleged *dependence* of one fact upon another should be examined; and, that the sense assigned to each of the important terms should be ascertained.



## GENERALIZATION,

In the strictest sense, is *gathering up*, from a multitude of facts, a conclusion, or inference, or rule, which is applicable to all, or which is suggested by all. By an effort of abstraction, we separate some one property, or peculiarity, from among others; and after observing this peculiarity in a number of instances, we digest, or bring together, the *common* part of all the instances: this mental process is *generalization*. The propensity to generalize, constitutes what is called the philosophical temper. It is a desire to know, not *particular* facts, but those universal facts which, when known, enable us to explain whatever particular facts present themselves to our notice. When the tendency of a certain mode of conduct, as, for instance, procrastination, has been observed in a great number of cases, we bring the conviction that has gradually formed itself in our mind, into the form of a general proposition, which, though it may be worded variously, contains the *principle*, or truth—that, to defer till to-morrow what should be done to-day, is a course of conduct which often ends in ruin or disgrace. This *general truth* we may safely apply to any new instance of the same kind, and may pre-

dict the issue, as at least probable. Or, when we learn from history that nations addicted to agriculture have been easily subjugated, unless they were also, to some considerable extent, commercial, we derive the general inference—that the combination of agriculture and commerce is favorable to the political strength of a nation. The process of deriving these inferences from a number of facts, is generalization.

#### GENUS *and* SPECIES,

Are correlative terms, the one having no meaning apart from the other. The resemblance or sameness of many things that are not absolutely alike, brings them together in our minds; and we call the collection a *genus*, or family. When the differences which distinguish some from others is noted, we distribute them into *species*. (See DEFINITION and DIFFERENCE.)

#### HYPOTHESIS,

From ὑποθεσις, a supposition. Experiments, made with the intention of discovering the causes of the effects we observe, would be vague and fruitless, if we did not, in each instance, follow some probable conjecture or *hypothesis*.

That is to say, a cause is first guessed at, and then experiments are instituted for the purpose of trying whether we have been right or wrong in our surmise. If wrong, we guess again, and make a new trial. An hypothesis, therefore, is not an *unproved supposition*, to which we give an idle assent; but a means, or instrument for gaining true knowledge. The instance adduced under the word EXPERIMENT, may be again referred to, for showing the use of an hypothesis. The American philosopher asked, "What is lightning?" His supposition or hypothesis was—it is electricity—or the brilliant and active fire which is generated by the friction of resin, or amber. It was to prove or disprove his hypothesis that he made his experiment. Or, to take another example: we have observed that a certain spot in a meadow produces a greater quantity of grass than the rest of the field. We remember, too, that a heap of various matters, rubbish, ashes, litter, &c. had for some time lain upon that spot; now (supposing that we were entirely ignorant of the virtues of manure) we should, as it were involuntarily, imagine that the heap of rubbish had been, in some way, the cause of the superior fertility of the spot. To ascertain the correctness of this hypothesis, we cover another

spot with earth, or sand, in order to find whether the mere circumstance of covering the sward, for a time, was the reason of the fact in question. But no such effect is found to be produced in this instance. Our next supposition is, that some one of the several matters contained in the first heap was the true cause we are in search of, and we proceed to deposit a parcel of each ingredient—ashes, sea-weed, stable litter, decayed vegetables, &c. separately, on different spots; and, after the lapse of some time, observe that, on one there is no increased fertility, while the others exhibit increased verdure in various degrees. This experiment, or trial, has determined our hypothesis. It is in this manner that all substantial knowledge of the laws of nature is acquired. And almost every addition to our knowledge suggests some new hypothesis, and leads to new discoveries.

## IDEA.

This word is often applied to any kind of thought, or notion, or belief; but its more proper use is restricted to such thoughts as are *images* of visible objects, whether actually seen and remembered, or compounded by the faculty of

imagination. The words *notion*, or *opinion*, would often be well substituted for the word *idea*.

#### IDENTITY,

Is absolute *sameness* in substance; and is affirmed more usually of persons, than of things. John yesterday, and John ten years ago, and to-day, is identically the same person, although the matter of his body has undergone many changes, as well as the dispositions and habits of his mind. The conviction or *consciousness* of personal identity, or of continued sameness, from the commencement to the end of life, is *conveyed* by memory; but does not depend upon, or consist in memory. A man who by disease, or intemperance, loses all recollection of his early years, does not cease to be the same person, though he is ignorant of being so. We grant that to be identically the same, through a long course of time, which has undergone none but gradual and partial changes. It is thus that the human body, in its course from infancy to age, is thought of as identically the same. The identity of the soul, or rational power, is believed to depend upon its unalterable and imperishable spirituality.

## IMAGINATION.

The power of the mind to decompose its *conceptions*, and to recombine the elements of them at its pleasure, is called its faculty of imagination. Imagination is distinguished from memory, not merely by the *activity* of the mind in the former case, but by the diversified composition of its ideas. To think of the heavens, as glowing like a furnace, and peopled with aerial armies, is to *imagine*, or to bring together the parts of many actual conceptions. This sort of mental creation is carried on, usually, under the influence of the taste for what is beautiful and sublime. To imagine things neither pleasing, nor grand, nor in any way adapted to excite agreeable emotions, belongs to a fantastic or disordered mind. Poetical genius seems to include, 1st, A power of abstraction in the senses, which enables the mind to separate the qualities and appearances of objects one from another: for unless they were so separated, they would not offer themselves ready for recombination; 2d, A power of vivid conception; 3d, A great susceptibility to the emotions of beauty and sublimity; 4th, A prompt correspondence between these emotions and the moral sentiments; 5th, A nice judg-



ment, in fixing the boundary between sobriety and extravagance; 6th, A quick recollection of words: and 7th, An ear, or sense of the rhythm, or mutual relations of words, as mere *sounds*.

#### IMPOSSIBLE;

That which cannot be affirmed, or imagined, without involving some absurdity; as, that all the parts of a thing together should make more or less than the whole. When it is said, as sometimes, that it is *impossible* that God should do so and so, all that can be properly intended is, that a contradiction in terms, or a direct absurdity, is contained in the supposition of the contrary.

#### IMPRESSION.

Whenever, either through the senses, or from its own feelings, the mind has undergone a change, or has passed from one state to another, *passively*, it is said to have received an *impression*—in allusion to the image that is imprinted upon softened wax.

#### INDEFINITE PROPOSITIONS,

Are those which do not limit the affirmation they contain, or declare whether it be universal,

or proper to a part, or an individual. "Men are creatures of habit," *might* be understood to mean, that *many* men, or *some* men are so ; though the nature of the proposition implies that it is intended to be universal. An indefinite form of speaking is proper when no ambiguity is likely to arise ; as if it were said, "Men are mortal ;" but then the abstract form is preferable—"Man is mortal." If it were said—"Men are knaves," the indefinite form of the proposition would seem to convey a false assertion—namely, that *all* men are knaves.

#### INDUCTION,

Is the drawing, or leading off an inference, or general fact, from a number of instances. Or, it is the summing up of the result of observations and experiments. It was Lord Bacon who introduced this term into philosophy ; and who moreover taught the true method of acquiring a knowledge of the laws of nature, by attending to facts, and by carefully comparing a great number of instances ; instead of the old method of philosophising, which consisted in forming a theory, or supposition, independently of all facts, and then explaining the appearances of nature on the blind assumption that

the theory was true. The old method was the shortest and easiest; but it was utterly fallacious. The modern, or Baconian method, is laborious, and difficult; but it is successful, and has proved in the highest degree beneficial. See the words EXPERIMENT and HYPOTHESIS.

#### INFERENCE.

Is a fact or truth, affirmed on the ground of its known or supposed connexion with some other fact, or truth, which is already established, or admitted. A. and B. are known, or believed, to be inseparable companions: if therefore we see A. we *infer* that B. is not far distant. The confidence with which we rely upon the truth of inferences, results from that persuasion, which is natural to the human mind, and which is insensibly produced by the uniformity of nature (and it springs also from the consciousness of power) that every effect has a cause, and that the connexion between causes and effects is invariable: or that events which have been seen constantly to succeed one the other, in a certain order, will continue to do so. The manner in which inferences are to be drawn from facts, may be thus exemplified:—On landing upon an unknown shore, we observe the prints

of human feet on the sands, and *infer* that the country is inhabited; for the mould of a human foot must be the result, not of the impression of the waves, but of a cause proper to its production; and this can be nothing else but the foot of man. These prints are fresh, and are found below the level of high water.—We infer then again, that some human being is not far distant; for the action of the waves must (according to the established order of nature) have obliterated them, had they been impressed before the last flow of the tide. Again, the prints are those, not only of naked feet, but of feet that have never been confined by the habit of wearing shoes:—it is then *probable*, if not certain, that these men are savages. In these instances of assuming a fact, of which we have none but indirect evidence, all the confidence of our belief springs from the persuasion, both that every effect must have a cause, and that every effect must have a cause suited to it, in all its conditions. Or, in other words, that every *part*, and *property*, and *circumstance* of an effect, must have a cause proper to itself. Independently of any process of reasoning, effects with which we are familiar, instantaneously suggest to the mind their causes;—the inference is immediate.

Inferences are liable to be erroneous, chiefly

from two causes : 1st, Certain events are supposed to be connected, as cause and effect, when the connexion between them is in truth merely accidental. Superstitious inferences are of this sort ; as, for instance, when some trivial occurrence, or simple accident, is supposed to be a prognostic of calamity or death, because in fact it has happened more than once soon before some such disastrous event. This is a false inference, because there is no real connexion between such occurrences and the misfortunes or death with which they have been associated. 2dly, Inferences are false, when, from among two or more causes that might have produced a certain effect, we hastily fix upon one, without attending to the others ; as thus :—A letter is received professing to contain a note or cheque ; but it is not in fact there ; and moreover the seal presents some appearance of having been broken, and repaired ; and the letter passed through the hands of a servant, whose integrity we have some reason to doubt. The inference which immediately suggests itself is, that this servant has withdrawn the note. But it is not a conclusive inference, and may actually appear to have been a false one. On writing to his correspondent, the person learns that, after he had sealed the letter, he re-opened

it to add a postscript, and that, in so doing, the note fell out, and was not seen until after the letter was dispatched. This mode of accounting for the fact *might* have been imagined, as well as several other suppositions, and ought to have prevented the hasty inference which implied the dishonesty of the servant. Nothing is more characteristic of a sound and calm mind, than the habit of suspending the judgment when evidence is ambiguous ; or of abstaining from plausible but inconclusive inferences. *Weak* minds from fear, and *ardent* minds from presumption, usually fix upon the first or most obvious inference which the circumstances of the case suggest. The important distinction between a *conjecture* and an *inference* should always be kept in mind : the former is the supposition of a particular cause, where more than one are before us, from which to choose. An inference, when just, is the *only cause* that can be rationally assumed, by which to account for the effect in question.

## INFINITE ;

That which has no limits ; or to which limits have not actually been assigned. A line is said to be infinite, though not more than an inch in



length, if drawn as a mere line, without regard to its length : a finite line is one that is bounded by two given, or known points. The word *infinite* is very frequently used improperly, instead of the words *perfect*, or *absolute*. When qualities are spoken of which can neither be numbered or measured, there can be no proper idea attached to the phrase, if they are called either *finite* or *infinite*. Snow is not infinitely, but perfectly white. If the divine attributes of wisdom, power, goodness, are spoken of as infinite, it is only by an allowable *accommodation* of the term. All that is intended is, that the perfections of the Divine Being surpass all our knowledge, or faculties of comprehension. God is perfectly, and absolutely, rather than infinitely, wise, holy, and good.

#### INSTINCT.

Many of the animal tribes, and insects, and especially birds, perform operations which imply, not merely forethought, and a calculation of cause and effect, but a *perfect knowledge* of the most difficult problems of geometry ; as, for instance—the construction of the honey-comb, which, in the figure and combination of the cells, is strictly conformed to the highest mathe-

matical principles. And yet this knowledge cannot be imagined to reside in the animal. For if it did, we should see that it would be more or less perfect in different individuals ; and would be improved by experience, and would show itself in other modes, and on other occasions ; and we should almost certainly find mistakes to be sometimes committed. But the contrary in all these points is the fact. We are compelled, therefore, to impute the knowledge and the forethought to the Creator, and to consider the animal only as the unconscious or unreasoning instrument of what it performs. This blind mode of operation—quite inconceivable by the human mind, is what we mean by the word *Instinct*. Reason, *as distinguished* from instinct, is the knowledge of the relation between means and end ; or cause and effect. And in *this* sense animals are, though in *an inferior degree*, endowed with reason. They act just as man acts, from knowledge and forethought, in a considerable part of their movements.

## INTELLECTUAL POWERS,

Are distinguished from the animal appetites, and from the moral faculties, or sensibilities : that is to say, from all mere sensations, and

desires, and emotions, and tastes. To perceive external objects, to conceive of them, to remember, to imagine, to compare, to judge, to abstract, and to analyse, to connect thought with thought, according to the real relation between one notion and another ;—these are the employments of the intellectual powers ; and these occupations of the mind, though most often, if not always connected with, or preceded, or followed by desires or emotions, of some sort, are essentially different from loving, hating, fearing, hoping, &c.

#### INTUITION,

From *intueor*, to look upon, or to look into with some attention. Whatever relation of one thing to another may be perceived or understood *instantly*, and without the aid of any *intermediate comparisons*, is said to be known by *intuition*: as that these two lines are of equal length.

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But if it were affirmed that these

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are to each other as seven is to ten, very few

persons would *intuitively* perceive the truth of the assertion ; and to prove it we must have recourse to a comparison of the parts of both ; or, in other words, to a number of intuitions. This sort of proof is a demonstration which differs from intuition, by its consisting of several intuitive truths. Truths intuitively perceived are called axioms.

## INVENTION.

This word, though derived from the Latin *invenio*, to find, or meet with, has acquired a different sense, and signifies to *devise*, or *imagine*, or to *put together*. It is thus applied to two very different operations of the mind, namely, poetical, and mechanical invention. Poetical invention is the bringing together images and sentiments adapted to excite certain pleasurable emotions, or to enkindle the imagination, and gratify taste ; and it depends upon the ready perception of external resemblances, or apparent analogies. But mechanical invention results from an effort of abstraction, in discerning and bringing together certain properties of bodies, for the production of a particular result. An end is proposed ; as for instance, the raising of a massive stone to its lofty place in a building. How shall this be done ?—naked human strength

is altogether insufficient. In what way then may human strength, or other forces, be applied to the stone with such advantage as shall render the operation facile, safe, and not too costly? The exchange between power and time, which is effected by the lever, the inclined plane, the screw, the pulley, are then thought of, and a choice is made, first among these various means, and then among the various modes of applying each.

The vast difference between the reasoning faculty of man and animals, is especially displayed in the extent to which the power of devising means for the attainment of an end is carried by man, in consequence of his greater power of abstraction:—the most simple instrument, or tool, is a product of the faculty of abstraction; nor is there reason to suppose that, even if the paws of animals were better fitted than they are to the holding of tools, animals could construct or employ them, unless their mental faculties were also enlarged.

Men and beasts alike betake themselves to the shelter of trees, or rocks, during a storm; thus far they both seek to accomplish an end by the use of means. But the animal advances no further than to recollect, on after occasions, the connexion between the tree, or rock, and

the feeling of protection from rain and wind, which it has afforded. Man not merely remembers this connexion, but thinks abstractedly of the several objects which have screened him from the tempest. He thinks of *shelter*; this is an abstract notion, and having formed it, whether consciously or not to himself, he perceives that it may belong to other things than the tree, or the rock, or the cavern; and he brings together, in the most advantageous manner, such materials as will, when so united, realize most completely his abstract idea:—the hut of the savage, constructed of rough branches and wattled boughs and leaves and dried grass, is nothing else than the embodying of an abstraction. The same may be said of all, even the most finished works of human ingenuity. When animals—the bee, or the beaver, or the white ant—embody an abstract idea, they do so in an invariable manner:—they commit no blunders;—make no improvements;—and exercise their skill at once, and without instruction. This is manifestly not the product of a mental process, like that of man, when he exercises invention. We must therefore attribute the knowledge to the Creator, and designate the *unintelligent* agency by another term; or call it INSTINCT. Invention is distinguished from



*discovery*, which is the finding out something already existing ; whereas invention is a sort of creation. The finding out the polarity of the magnet was a discovery : the application of that discovery to the purposes of navigation, by suspending a magnetic wire on a pivot, over a circular index, was an invention.

#### JUDGMENT,

Is the action of the mind in deciding, or pronouncing, concerning two things, when placed in comparison, that they are equal, or unequal ; like, or unlike ; that the one contains the other, or bears such or such a relation to it. It is by *successive judgments*, or by the regular comparing of one idea or notion with another, until we reach some one which at first was seen in the distance, that a process of reasoning is carried on.

The excellence of the judgment, as a faculty of the mind, depends, in the first place, upon the clearness of its ideas, the precision or exactness of its power of abstraction ; and upon its power of attention. But the moral character, or the habitual motives of the mind, have very much to do with the soundness and excellence of the judgment. This will appear if we ex-

amine the real meaning of those epithets which are most frequently applied to the judgment, by way of distinction. Most of them express the freedom of the mind from some sort of prejudice, or improper motive, or disturbing influence. The mind never acts without some motive; now the *ruling* motive, when it is to exercise judgment, should manifestly be—the desire to arrive at a true result. And this motive should be both vivid and permanent, or it will not prevail over opposite impulses, or over the inertness of the mind. The phrase, a *sound* judgment, means that the mind has so *healthy*, or vigorous a habit of pursuing truth, that it is not diverted or led astray by those tastes, or prejudices, or preferences, which are always at hand to influence our decisions. A *calm* judgment is one which is not swayed or intimidated by the passions or vehemence of other men; or which can serenely carry on its intellectual operations, amid many surrounding agitations. A *cool* judgment is nearly the same thing; or if distinguishable from the *calmness* of the judgment, it refers to freedom from *external* disturbances: while *coolness* relates to such as are internal; namely—a nervous irritability of the body; a lively and excitable imagination; an excessive sensibility of the moral feelings;—or

the prevalence of malignant passions. Those who are distinguished by this calmness and coolness of judgment possess a great advantage in their transactions with others; for it is a rare excellence, and enables a man both to attain a true result more *certainly*, and to attain it more *speedily* than those with whom he has to do. While they are carried hither and thither, by their prejudices, their wishes, their hopes, or their fears, he has gained a just view of the business in question; and is, at his leisure, calculating all the consequences of the line of conduct he means to pursue. It may however be observed, that this calmness and coolness of mind, when belonging to vulgarity and sordidness of character, commonly generates a self-conceit, or vanity, which becomes an *indirect motive*, and leads the understanding astray. Men of this sort, in order to gain the immediate gratification of having reached an unfair advantage over the simple, confine their views to the present moment; and while they snatch at a trifling profit, are blind to their own greater and future interests. Cunning, or worldly wisdom, is the usual designation of this sort of intellectual *short-sightedness*, which is produced in vain and vulgar minds that possess the advantage of a cool judgment.

The epithets *acute*, *profound*, and *comprehensive*, applied to the judgment, express different degrees, or kinds, of *activity*, and of *force*, in the intellect. Next to the many perverting motives which are the great sources of errors of judgment, a principal cause of false or imperfect conclusions is that indolence, or inertness, from which very few minds are altogether exempt. In many minds intellectual action ceases, or falters, before the process of comparing objects or notions is completed. These *unfinished comparisons*, if deemed to be perfect, are necessarily false judgments. The activity, or the energy, which resists this inertness, displays itself in different modes, as for example :—A mind that is capable of a short vigorous effort, will complete a single process of thought, and produce a perfect comparison of two or three objects. This is what constitutes an *acute* judgment. A *profound* judgment is one that is capable of long-continued and patient exertion, and in which the desire of truth is tranquil and steady, so that every comparison is carefully made, and the entire series of comparisons is pursued, until the matter in question is examined in all its breadth and depth.

When a vivid and steady desire of truth is conjoined with modesty and with great tran-

quillity, and ingenuousness of temper, there will be a frequent return of the mind to the same subject, as if to examine anew its former conclusions. This will leave room for the admission of new considerations, which heretofore may have been neglected; and thus frequent *amendments*, or revisions of such conclusions will take place: and a habit will be formed of suspending the mental process in expectation of new light or more evidence. These habits form what is termed a *comprehensive* judgment; or an enlarged mode of thinking. Acute minds are often hurried into error from the want of this sort of revision of their opinions; and profound minds are liable to err by the too continuous and unbroken fixing of the mind upon a single train of ideas; so that facts or principles which, though nearly connected with the subject before them, *lie on one side*, are overlooked.—It is thus often that the learned lose themselves in depths, where common minds easily find their way. Acuteness, profoundness, and even comprehensiveness of judgment, are not seldom found apart from evenness or serenity of temper; in such cases the *intellectual* excellence shows itself only in favorable seasons, or when no vivid motive agitates the spirit. Some persons exhibit consummate ability, and great

soundness of judgment in managing other men's affairs, or in giving advice where they are not personally interested ; though they invariably mismanage their *own* concerns:—in *their own* concerns, their intellectual faculties are perturbed by their hopes, fears, passions, or anxieties. It is thus, often, that studious men, who display the highest degree of acuteness or force of mind, while occupied in their closets, with literary or scientific matters, act like children, if exposed to the agitations of public life.

## LIBERTY,

As an abstract term, is opposed to necessity, and means the absence of restraint, or hindrance, or interruption in the performance of an action, or the fulfilment of any desire. (See NECESSITY.)

## LOGIC,

Considered as a *science*, explains the operation of the mind in reasoning, or in discovering truth. As an art it teaches the method of managing the faculties of abstraction, generalization, and judgment, to the greatest advantage ; and gives rules also for detecting fallacious or sophistical arguments. Logic has, in modern times, been much neglected and despised, in



consequence of the futile matter, or the unmeaning jargon, with which, formerly, it abounded. It is well that the ancient system of wrangling about trifles should be discarded; but it is nevertheless true that the mind may be greatly strengthened and aided by that sort of training and exercise which is scarcely at all attempted in modern education. A man may be both strong and brave who is taken untrained from the plough; but neither his strength nor courage will be of much service in a field of battle, until he has learned to employ both with the precision, promptitude, and subordination, which are taught by the military exercise. And thus too, good sense, and strength of mind, are often baffled or overthrown by the subtilty of a crafty reasoner, merely because the mind wants the *training* which a sound and rational system of logic might afford.

MAJOR, MINOR, *and* MIDDLE TERMS—*see*  
SYLLOGISM.

MATTER,

That which occupies space, which, when so occupied, is called *extension*. Matter becomes known to the mind by its obstructing the move-

ments of the body, and by its affecting at the same time the organ of sight. Having gained the knowledge of that which is solid and visible, we think of it as a *substance*, which supports, or contains all the various qualities of color, figure, density, fragrance, taste, &c. that affect the senses. All we have knowledge of is either *mind* or *matter*. The former feels, and knows, and moves the latter; the latter makes impressions on the senses, and resists the power of movement.

#### MEMORY,

Is the presence of some image or notion in the mind, attended by those accidental circumstances which connect it with our *past* consciousness. It is this faculty of memory which maintains in the mind, from day to day, and from year to year, the conviction of personal identity, amid the greatest changes of disposition, or external condition. And, by a tacit *inference* from this feeling of past and continuous existence, we learn to look forward to a remote futurity. The faculty of memory, in different minds, has various excellencies and defects. In some minds it is *ready*; that is to say, it instantly brings forward the particular recollections that are required by the occasion. In

others it is *retentive* of whatever has once been impressed on it ; but does not act so promptly, when called to produce its evidence. In others it receives with great facility new impressions ; retains them in perfection for a short time but very quickly loses every trace of its acquisitions. The memory is perhaps more nearly, than any other faculty, connected with the state of the brain *as a bodily organ* :—it is most perfect in youth, and is the first of the mental powers to exhibit the effects of age : it is impaired, or sometimes entirely lost, in consequence of injuries on the head ; and has been recovered when such injuries have been remedied. The memory also is susceptible of very great improvement, by exercise ; and, on the contrary, becomes almost torpid, if neglected. The training and exercise of the memory should therefore be a principal business of education. There is however nothing which more enfeebles the reasoning powers, and checks the imagination, than an excessive or *exclusive* exercise of the memory.

## METAPHYSICS.

The knowledge of things *actually existing*, whether material or immaterial, is comprehended under the different branches of *physical* or na-

tural philosophy ; such as natural history, mechanical philosophy, chemistry, &c. or pneumatology, which is the science of mind. But there are abstract or universal truths—principles which would be true whether or not the world and its inhabitants existed ; or if the world, and all it contains, were altogether unlike what it is. The knowledge of these *universal truths*, and their relation one to another, is taught by metaphysics. The pure mathematics, or higher principles of geometry and arithmetic, stand in the same relation to mechanical science, and to what is called the *mixed* mathematics, which exists between metaphysics and the philosophy of the human mind. As for example—the proportion between the diameter and circumference of a circle, which is nearly as 113 to 355, would be the same, though no material world existed, and is absolutely independent of all the laws and arrangements of the actual world. But such principles as the laws of gravitation, which regulate the movements of the planets, and the attractions and repulsions that exist among different bodies, and the refraction of light, are *facts* in the constitution of the material system, and are learned by observation and experiment. And thus, in like manner, those facts which have been mentioned under

the articles *Judgment, Memory, Imagination*, belong to the real and *actual* constitution of the human mind ; which might have been otherwise framed than it is. But such truths as these—Every effect must have a Cause—There must be a FIRST CAUSE—and a Self-existent Being, are abstract and unchangeable principles ; and belong to *Metaphysics*.

#### METHOD,

Is the arranging of our knowledge in that order which renders it most intelligible to others, whom we wish to instruct. It is a *disposition*, having in view a specific object. *Methodical* habits of thinking should not be mistaken for philosophical habits, in which there is more of analysis, and of generalization, than of obvious arrangement.

#### MIND,

Is that which perceives, feels, remembers, acts, and is conscious of continued existence.

#### MODE.

The manner or conditions under which a thing exists, is called its mode :—figure and color are modes of matter. This term is merely logical, and of little utility.

## NATURE.

All the properties or qualities, taken together, which are deemed proper to a thing, or inseparable from it, constitute its *nature* or essence. The word *nature* is a mere term of convenience, which briefly signifies all the ordinary or most important qualities of the thing we speak of.

## NECESSITY.

As an abstract term, is opposed, 1st, to *Contingency*, which means either the happening of events without any cause why they should happen, and then necessity means only that every effect has a cause; or contingency means that there is no absurdity or contradiction in supposing that something which does exist, might not have existed; as for example, some particular species of animals; for we can conceive very well of a world in which there were no lions, or no elephants:—lions and elephants are, therefore, contingent, not necessary beings. Or, 2dly, Necessity is often opposed to liberty; but an improper or unintelligible sense is assigned to the word, when so employed, unless it is merely intended to affirm, that no cause can operate beyond its sphere, or that no being can



go beyond its powers and faculties ;—but then some such word as *limitation* is to be preferred. A stone *necessarily* remains where it lies, until it be moved by some foreign cause. An animal *necessarily* pursues the instincts of its nature ; and a necessity of nature denies to man the liberty of soaring through the air. These forms of speaking add nothing to the clearness or precision of our notions ; and have arisen out of absurd disputations. Necessity, certainty, possibility, impossibility, &c. are words (as they are familiarly used) which indicate only a higher or lower degree of knowledge of the hidden causes of things. One man regards a future event as contingent—probable—possible, which another pronounces to be necessary, certain, or impossible. As thus :—A bowing wall, or a tottering house, is looked at by two persons ; one, if asked whether it will stand a year longer, replies, “ That it *may* stand so long, but its doing so is contingent, or probable, or improbable.” But the other, who is a builder, and who has examined the foundations and the fissures, and held his plumb-line to the up-rights, affirms, that the whole will fall to the ground in a few days ;—he says it will *necessarily* fall : that is to say—he who speaks *knows the causes* on which the event depends ; the

other is ignorant of them, and thought the event in question a chance. (See CONTINGENCY and LIBERTY.)

NEGATIVE *and* POSITIVE,

Are correlative terms, when causes or qualities are spoken of. Beneficence is a positive virtue. Justice may, in a sense, be called a negative virtue; for it may be defined as consisting in not invading the rights of others. Negative and *affirmative* are the correlative terms, if applied to propositions. As—"Piety, with contentment, is great gain:" this is a positive proposition. "Riches will not ensure happiness," is negative.

NOMINAL *and* REAL,

Are terms occurring in the history of intellectual philosophy, and refer to an absurd dispute, long carried on with great violence and rancor, on the question, whether general ideas, or essential forms, have any real existence--no one can say where--as Plato imagined; or whether they are nothing more than the notions formed in the human mind, after contemplating things, as *genus* and *species*. The adherents of the former opinion were called Realists, those of the latter Nominalists.

## NOTION.

The word *idea* is most properly applied to images of things in the mind, retained or recalled; while the word *notion* signifies complex abstractions of some kind, such as those of *justice, truth, equality, disproportion, &c.*

## ORDER,

Is a fixed succession of many things—which succession has reference to some intention, and is the consequence of arrangement. Or the word *order* is used more abstractedly, in relation to number, spoken of, not in the aggregate, but as consisting of successive integers, the relative place of each being noted—as the 7th, 8th, 9th.

## OPINION.

Facts or principles which rest upon demonstration are *known*. Facts established by good and sufficient evidence, are *believed*. Abstract or speculative principles, confirmed by arguments which we deem conclusive or satisfactory, though they may not seem so to others, are matters of opinion. We *know*, or may know, that a square, raised upon a hypotenuse, is equal to the two squares together, that are

raised upon the upright and base line of a right-angled triangle. We *believe* that Brutus killed Cæsar. It is our *opinion*, that a limited monarchy is preferable to a democracy. The word *opinion* is most frequently applied to abstract propositions, which are matters of dispute, and which excite a lively interest, such, for example, as political or religious principles.

The circumstances of education, habit, and interest, or association ; or even the tastes and inclinations that belong to the imagination, have, with most men, more influence in the determination of their opinions, than the mere arguments that support such principles. It is to be remembered, that in questions which do not admit of demonstrative reasoning, or on which the evidence is not of the most obvious and irresistible kind, there is always room for the establishment of a contrary supposition ; so that even the most improbable opinion, if viewed exclusively in the light of those few evidences which give it an appearance of truth, may seem reasonable. And if the mind has acquired the habit of timidly, or resentfully, or perversely turning away from all evidence but that which favors its prejudices, or interests, its pride, or its indolence, it may hold or defend an error of opinion, without direct insincerity, or conscious

dishonesty. And after a while, the inconclusive evidence, which at first perhaps by no means satisfied the understanding, has made itself so familiar, so intelligible, and has assumed so fair an aspect, and has insensibly drawn to itself so many little corroborations, that all doubt and suspicion is for ever dismissed; and the mind becomes absolutely enslaved by its own delusions.

Though the majority of mankind adhere, through life, to the opinions they may have adopted from education, or interest; instances of a change of opinion are not uncommon. Such changes take place from various causes. Some men are very often veering from point to point, in consequence of instability of disposition. There is a feeble activity—an irresolute force, in the mind, which at once prevents its attaining complete conviction on any disputed matter, and tempts it to wander, hither and thither, in search of what it can never find—undoubted certainty. A melancholic timidity also, breeds, in some minds, a distrust of all evidence:—persons of this temper change their opinions, again and again, from the mere fear of having been deceived in those they last held. There is also an affectation of independence and freedom

from vulgar prejudice, which impels some persons frequently to profess a new creed.

There are those who abandon the principles of their education from the influence of a strong peculiarity of temper.—The accident of birth has perhaps placed them in an atmosphere which they cannot breathe, and when the intellectual powers expand, they betake themselves to what they feel a more congenial region. He whose temper is at once arrogant and timid, will probably go over to the party which professes arbitrary principles of government; he will abhor republicanism; rail at the defenders of popular rights: and court the favor of the noble:—he will have little sympathy with the poor, and the *many*; while he approves of the force, and apologizes for the corruption, by which the privileges of the *few* are supported. On the other hand, he whose pride and arrogance are of a more active and malignant kind, will be the friend of the populace, and the foe of the great and noble;—he will profess opinions which give a show of reason to a turbulent hostility towards those who administer the government, let their measures be what they may. The spirit of contradiction, and the love of wrangling, is the ruling principle in some minds; and persons affected by it may be driven, by



opposition, into the profession of any opinion, how absurd soever, or contrary to their former professions. In order to secure themselves as far as possible against the danger of finding no opponents, they declare themselves the advocates of whatever is most paradoxical and flagrantly extravagant.

But although the profession of this or of that new order of opinions is too often the result of improper motives, there are not wanting instances of the renunciation of one set of principles, and the adoption of another, in consequence of an ingenuous attention to evidence and argument. *Such* revolutions, especially when religion is the subject of them, and when they spring from genuine motives, will be attended with modesty, and with a respectful and kind treatment of those who may still adhere to the principles that have been renounced. A noisy and insolent dogmatism distinguishes, not only blind and obstinate pertinacity, but versatility also ; and he who to-day turns round offensively upon the party to which yesterday he belonged, may be expected to-morrow to make some new movement, that shall compel him to criminate his own most recent professions.

The great principle—so little thought of,

though so obvious that the statement of it seems unnecessary—That nothing but TRUTH can in the end be advantageous or safe, would, if always kept in sight, secure us from a thousand influences which lead us into error.

PASSIVE—see ACTIVE.

#### PERCEPTION,

Is distinguished from *sensation* and *conception*. The mere impression produced upon the mind through the senses by external objects, is called a sensation : and if this impression were unconnected with others, belonging to different senses, we should perhaps not be led to regard it as caused by an external object. Thus, for example, a taste or smell, or the prick of a pin, *alone*, would be regarded merely as a *feeling* of the mind. But when that which is *tasted* is at the same time *felt*, and has just before been *seen*, we involuntarily combine the several sensations ; or think of them as derived from one and the same source. And it is thus, especially, that when we see and touch an object, the two very dissimilar sensations, *combined*, give

the conviction of an external object, as *the one cause* of both. Conception is the recovery of some past perception.

#### PHENOMENON,

From *φαινόμενον*—something which makes its appearance. This term of physical science is most properly applied to the visible objects of natural philosophy, and especially to facts or appearances which have not yet been fully explained. *Phenomena* are invitations addressed by nature to the rational curiosity of man.

#### POWER—see CAUSE.

Having derived the notion signified by the word *power*, from our own conscious ability, both to affect or move matter, and to control our own thoughts, we impute it to whatever is seen, or to whatever *seems* to produce a change upon another body; and thus learn to speak of the *powers of nature*:—but when these powers are closely examined we find nothing beyond the *fact*, that a certain event invariably and immediately follows another; as that if fire be applied to lead—the solid becomes a fluid.

## PREDICATE,

Is that which is affirmed or denied, in a proposition, concerning its *subject* : as that—Etna is—a *volcanic mountain* : or, Etna *has not lately vomited fire*.

## PREJUDICE.

An opinion adopted or maintained, without proper regard to the evidence on which it rests, and especially if it be adhered to under the influence of improper motives, is called a *prejudice*, whether or not that opinion be in itself well founded. Two persons may believe the same thing, or hold the same opinion, the one from rational conviction, the other from prejudice. Prejudices may be classed, according to the quality of *motives* from which they spring. Of these motives, some are of a pleasurable, or comparatively innocent, or social kind ; while others are malignant and pernicious. Among prejudices of the first class may be mentioned—Those springing from personal vanity.—When our own endowments, or qualifications, or acquirements, or external advantages, are placed in comparison with those of others, the emotion of self-love so much disturbs the judgment, that we are in great danger of falling into

egregious errors of estimation, and often believe those virtues or talents to be splendid, which in truth are only of an ordinary kind. There are prejudices of the heart which are rather weaknesses than vices. Thus the fondness of parents for their children leads them often to overrate their good qualities, and to be blind to their faults. What is called the love of country, or the warm preference of the land of our birth to all others, usually brings with it some false judgments, which cannot be deemed better than prejudices. There are prejudices of a more indefinite nature, though perhaps they may be traced to some modification of self-love. Such are the capricious and fond preferences which weak minds exhibit towards things, persons, or pursuits, they have accidentally become attached to. And such is that eager fondness for, and exclusive attention to, frivolous or comparatively unimportant amusements, in matters of science or literature, which fill some men's days with laborious idleness. So strong are prejudices of this order, in some cases, that the attainment of a rare coin, or shell, or insect, or plant, for completing a collection, or the purchase of a scarce book, shall entirely engross the mind, and appear a matter of more grave importance than the most momentous affairs of real life! Of

such pursuits it may be said, that though they *seem* innocent, they are not so, if they withdraw the mind from the offices of charity and philanthropy ; or render a man useless in the world, abounding as it does with miseries that might be alleviated by zeal and kindness. Prejudices springing from malignant motives have already been referred to (see OPINION) : they are always both injurious and odious :—such are those which arise from the pride of rank, wealth, or learning ;—from capricious antipathies against individuals ;—from personal jealousies, or opposition of interests ;—from party spirit, in matters of religion, or politics ;—or from national, provincial, or corporate animosities. There may indeed be something amiable in the prejudice which impels a man to think that the climate, and the produce, and the institutions of his native land are the best in the world ; though in fact they may be among the worst. But the prejudice which leads an Englishman to hate, or to hold in contempt, an American or a German, is altogether vicious.

Candor may be defined as a willingness to revise or examine our opinions, on subjects in reference to which we are exposed to the influence of some improper motive, and likely, there-



fore, to entertain a prejudice. False candor is—a prejudice, against prejudice. That is to say, it is such a feeble and foolish jealousy of being influenced by prejudices, as prevents our making a decided choice between truth and error.

#### PREMISES,

Things laid down, or affirmed as known, or granted, from which some conclusion is to be derived:—as thus, 1st, If all men, without restraint, pursue their private advantage, there can be no security of life or property to any. 2d, But if there be no security to life or property, there will be no industry. 3d, And if there be no industry, men must remain in a savage state. 4th, *Therefore* some form of government, which shall have the power to restrain the cupidity or ferocity of individuals, is necessary to civilization. In this argument the three first propositions are the premises, and are assumed as facts, or principles that will not be denied; the 4th proposition is the conclusion, which must be granted, because of its evident connexion with the premises.

#### PRIMARY *and* SECONDARY QUALITIES

Are distinguished on the supposition that certain properties are inseparable from a sub-

stance ; or that the want of any one of them would destroy its *essence* ; while other qualities may be thought of as present, or absent, without affecting the nature of the thing.—Thus extension and solidity are called primary qualities of matter :—color, flavor, fragrancy, are secondary. These distinctions are of little importance.

#### PRINCIPLE,

From *principium*, a beginning. The elements, or the most important qualities, or parts of a substance, are called its principles ; whence its other properties take their rise. The principles of a science, are those axioms, or great facts, which, though not always first *discovered*, are first to be *learned*, and which, when understood, lead the way to the comprehension of all the branches of a science.

#### PROBABILITY.

This word, though a higher sense is often attached to it, represents only the extent of our ignorance, either of the causes which will influence some future event, or of the actual facts of some past event, affirmed or surmised to have taken place. Our *ignorance* leads us to think of facts as being *in themselves*, more or

less certain : but this is a mere prejudice of the understanding. Historical affirmations are either true or false, absolutely : yet, when not incontestably established, it is usual to speak of them in some such terms as these.—We say, for example—It is *probable* that the temple of Belus was founded on the site of the tower of Babel.—It is *highly probable* that Plato had perused some parts of the Hebrew Scriptures.—There is a *slight probability* in the conjecture that the Egyptian pyramids were built by the enslaved Israelites.—It is *in the highest degree probable*, that the planets are inhabited. Or we speak of events now occurring at a distance, in a similar manner ; and say—It is *probable* that my friend has already left his home, and is on his way to pay me a visit.—Or of future events in the same terms—It is *probable* that a communication may one day be opened through the Isthmus of Suez, between the Mediterranean Sea and the Red Sea. Now all these propositions, whether they relate to the past or the future, are absolutely true, or absolutely false.—Degrees of probability belong altogether to the degree, or extent, of our knowledge of the *facts* (in past events) or of the *causes* that are to influence what is yet future.

## PROPOSITION,

The affirming or denying of one thing, concerning another—Every complete sentence is a proposition, directly or obliquely declaring some truth; and every such sentence contains—1st, A subject;—or that concerning which an affirmation is advanced: 2d, A predicate, or truth affirmed; and 3d, A form of connexion between the two, called a *copula*: as thus.—(The sun) (is) (risen). Or, The people of India (*the subject*) are (*the copula*) divided into castes (*the predicate*). An argument, or chain of reasoning, consists of a series of propositions, each of which, after the first, is true, *because*, the one which precedes it is true. Every preceding proposition in an argument, *contains*, or is alleged to contain, its successor.

## REASON

Has already been distinguished from INSTINCT. It is distinguished from the other faculties of the mind by its relating always to *knowledge*, and consisting in the action of the mind upon its knowledge; either separating its ideas, or notions, one from another; or comparing or combining them. If the mind constantly obeyed external impulses, or invariably yielded

itself to the current of its ideas, it would not deserve to be called—an *intelligence*, or a rational nature. Its power over itself, a power directed by knowledge, and employed for the accomplishment of some purpose foreseen, is what constitutes Reason.

#### REASONING,

In the acquired sense of the word, is not *any* employment of Reason; but that particular employment which has for its object the discovery of truth, by tracing the connexion of one admitted fact with another, through a longer or a shorter series of propositions. In a sound argument, that is to say, in *conclusive* reasoning, the predicate of each proposition must be true of its subject; and the connexion between the successive propositions must be truly stated. If this be the case, then the last proposition, *for the sake of establishing which* the process has been passed through, may be assented to as certain. Such processes of reasoning become necessary only on account of the limitation of the human mind, which does not admit more than a very few facts to be contemplated at once. The more vigorous and comprehensive any mind is, the less need it has of reasoning,

to reach a distant conclusion. On the contrary, a feeble and contracted mind must, as it were, creep from point to point, of an argument; and when it has reached the termination, it has perhaps lost its hold of the connexion of facts, and is rather so much the more perplexed, than convinced, by its own effort to attain the desired conclusion. But much facility may be acquired in reasoning, by exercise; and this sort of exercise ought to form a capital part of every good education.

The real nature of the operation which is passed through, in a process of reasoning, may be exhibited by *dissecting*, if we may so speak, the working of an easy arithmetical problem.—I affirm, for instance, that if you take 432, nine times over, you will have 3888.—This is my *ultimate* proposition, which I assume as true, and profess to be able to establish. I do so, by presenting to you a number of lesser propositions, the truth of which you have either already ascertained, or which you can *perceive* to be true, as soon as presented to you: and then, when all these propositions are taken together, or summed up in succession;—that is to say, when the connexion between all of them is exhibited, you cannot refuse your assent to my conclusion.—As thus,—The figures 432 represent, in a



condensed form, three distinct quantities ; namely, four hundred, and thirty, and two. We will therefore separately take each of these quantities nine times, and then join the several products :—2, nine times taken, is 18 : and 30, nine times, is 270 :—but 270, and 18, are 288. Again ; 400, nine times taken, is 3600 ; and 3600, added to 288, is 3888 ; which was at first affirmed. Now, if any one were not convinced of the truth of this affirmation, as thus proved, it would be necessary, in the first place, to dissect each of the above-named propositions further ; that is, to reduce each one to several smaller propositions, the truth of which might be more readily perceived ;—as for instance, we should show how 2, nine times, makes 18, &c. And after this more minute dissection had been gone through, we should explain the *general principle* of the argument ; by proving that all the parts of a thing, taken together, must be reckoned equal to the whole of it ; and that therefore the summing up of all the propositions, must give a true result. It is often necessary, *after* a particular argument has been brought to a conclusion, to go back, in this manner, to a more general argument ; for the purpose of justifying the mode of conducting it.

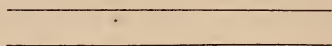
But whatever may be the *subject* of reason-

ing, or whatever the *form* it is made to assume, it is always, in substance, the same, namely—a showing, in succession, *all the parts* of a complex proposition, and *all the connexions* of those parts. It is obvious to remark, that an immeasurable advantage rests on the side of vigorous and practised minds, over the feeble and untaught:—for the very necessity of examining, one by one, all the minute parts of a proposition, adds so much to the labor of the mind, and so much increases the apparent confusion, that the weaker understanding is almost, or quite, as much embarrassed as aided by the endeavor to attain satisfaction. Meanwhile, the strong and well-taught mind, which has discerned the truth of the proposition in two or three *large masses*, if we might so speak, and has not descended to the lesser particulars, suffers no fatigue, is conscious of no confusion: but contemplates, *at leisure*, what has exhausted all the powers of the other to reach. Hence we may infer the serious responsibility which rests upon superior minds, in dealing with the simple and uninformed.—How careful should such be not to abuse the advantage they possess;—an advantage which there are always so many temptations to abuse! It would be thought a poor triumph for an adult to exhibit his strength in

crushing an infant. And is it not a paltry triumph which men of intellectual acuteness obtain, when they employ their powers of reasoning to mislead and confound the uninformed by specious sophisms ?

#### RELATION.

That which gives rise to a comparison between two things, and which leads us henceforward to think of each, not as if alone, but as if connected with the other, though in truth there is no other connexion than what has been formed in our own minds. If we think of a house as *high*, it is because we have (mentally at least) compared it with one not so high.—There exists in our mind a relation of inequality between the two houses. If we see these two lines,



we can hardly avoid comparing them, *first*, in regard to their *length* ; and we perceive them to be *equal* : or, in other words, they are *related* to each other by their equality in length. We then think of their *position*, one to the other ; and perceiving that they are equally distant, from end to end, we say they are parallel lines.

—Now this word *parallel* represents nothing that actually exists, or that can be shown in either of the lines ; but it declares the notion the mind has formed of their relation, one to the other, of *equal distance*, at all points.

A very large proportion of all our abstract notions are relations :—that is, the result of some comparison between two things, or notions ; as for example.—Truth is a relation of sameness, or agreement, between an affirmation, and the thing spoken of. Value, or worth, is a relation of equality, between one mode of employing or consuming a commodity, and another mode. In analysing relative notions, we have first to ascertain what the two things are which are supposed to be compared ; and then, what is the proportion which the one bears to the other.

SENSATION—*see* PERCEPTION.

Is the mere effect produced upon the mind, through the senses, by some external object. The construction of the organs of sensation—the eye—the ear—the palate, &c. may, to a certain extent, be understood, and laid open ; and again we may examine our consciousness, and distinguish one kind of sensation from another ; but we are utterly ignorant of the

*reason* of the connexion between the falling of light upon the *retina* of the eye, and the sensation produced on the mind thereby. It is, however, certain, that it is the *mind*, not the body, which feels and perceives; and it may well be imagined that the organs of sensation are, in fact, *limitations* of the sensitiveness of the mind; or are the means of the *confinement* of its universal faculty of seeing, hearing, tasting, &c. to a particular spot or portion of the nervous system. It may be conceived, that if the nerves of the hand, for instance, were *exposed* to the impression of light, in the same degree as they are upon the *retina*, that we should see there, as well as in the eye;—and the same of the other senses. We may then imagine that the mind, if separated entirely from the body, or set free from all limitation, would, by its proper and uniform sensibility, perceive incessantly all external objects. This supposition is at least as probable as that the being which, in the body, perceives, should lose its sensibility when separated from it. Nor is it improbable that the dissolution of the body may set the spirit free to perceive some *new* qualities of the external world.

## SIGNS,

Are not resemblances, or images of things, but sounds or marks, associated by *mere usage* in the mind, with certain ideas or notions. This use of arbitrary signs, connected as it is with the power of giving modulations to the voice, and subserving, as it does, the faculty of abstraction, not only affords the means of intercourse between man and man; but is the great instrument of all intellectual operations, and the principal means of all improvement.—The use of signs may be taken as the distinguishing difference between man and the inferior tribes. Whether it be *possible* to think or reason at all concerning abstract notions without the use of words, may be questioned; but it is certain that words facilitate, and abbreviate, and *fix* the processes of thought in an incalculable degree. This must be allowed, although it were granted, on the other hand, that words are a very imperfect instrument of mental operations, and that they convey abstract notions, and mental facts, very vaguely, and often erroneously.

Let any one attempt to think without a mental reference to words, and he will find how much (though unconsciously) he is ordinarily indebted to them.



If there had been but one language in the world, and that language permanent from age to age, it would have been very difficult, perhaps impossible, not to have supposed that there is a *real* connexion between certain sounds, and the things of which they are the signs. But the diversity of languages enables us readily to perceive that all signs are purely arbitrary, and that *man* means man, *only by usage*; for after crossing a channel or a river, we find that *homme* means man;—or *homo*; or ἄνθρωπος. The diversity of language though attended with many inconveniences, has unquestionably operated to set the human mind free from what would otherwise, probably, have been a sort of despotism of words over ideas, and notions, and opinions. This diversity has, without depriving us of the usefulness of language, as an instrument of thought, enabled us to use it *freely*, and independently—as a *mere instrument*, and nothing more.

#### SOPHISM,

From σόφισμα, a device, or fraudulent contrivance. Though any sort of false and specious argument is sometimes called a *sophism*, the epithet is most properly applied to those fallacious reasonings which are constructed for the

purpose of recommending error ; and which he who employs them strives to shield from examination, by subtilty, and the ambiguity of language. In books of logic are to be found methodical descriptions of the various sorts of sophisms, together with rules, which may furnish aid in detecting the lurking error of all such fallacious arguments. But, however good these rules may be, it requires much attention, and some acuteness, as well as frequent exercise in disputation, to make any practical use of them, or to retain in the memory the abstract distinctions on which they are founded. Instead of attempting, in this place, to give a summary of any such rules, two or three plain directions and hints are offered, which may serve to secure the mind against the danger of having important principles overthrown by the craft of disingenuous wranglers.

1st. A sophistical argument is very commonly expressed in a style of affected *nicety*, and of refined precision. The sophist will seldom consent to state his reasons in any other terms than those he has artfully selected. But substantial and important truths, as they are always independent of words, may be conveyed, with nearly equal advantage, in several forms of expression ; and an honest reasoner, if indeed he understands what he advances, will, if he fails

to make himself intelligible in one mode, readily find another, and yet another set of phrases, until his proposition, whether true or false, stands out fairly in the light. Whoever suspects that an argument which he finds it difficult to overthrow, is sophistical, may well demand that it should be presented to him in another form of expression; and that no stress should be laid upon certain words; especially if they are of an abstruse or ambiguous kind.

2d. Sophistical reasoning, if not subtile and *nice*, is often bold, abrupt, and dogmatical, and affects to force assent, by the power of demonstration; and that too on subjects which do not admit of demonstrative reasoning.

Now, as a defence against this sort of *violence*, or tyranny, it should be borne in mind, especially when questions are discussed which have long been matters of controversy, that if these pretended demonstrations were indeed sound and good—if they were as conclusive as they may seem to be, to those to whom they are *new*, they would long ago have brought the controversy to a conclusion, and have compelled the assent at least of all intelligent and honest men. Demonstrative reasoning, either supersedes all other arguments; or it is utterly useless. It is good for *every thing*, or good for

nothing. Of this sort, for example, is the brief method which has often been resorted to for the purpose of disproving the Christian miracles.—All our knowledge, it is said, is drawn from experience:—we must therefore always be guided by our experience, in what we believe, or disbelieve. Now it is contrary to our experience that the dead should return to life, or that cripples should be made to walk, by a word. But on the contrary, it is agreeable to experience that men should invent and propagate marvellous tales.—*Therefore*, it is reasonable to suppose the narratives of the Evangelists to be fabrications. If this demonstration were a sound one, it would not only destroy our belief in Christianity, but put an end to all science, and give the lie to the greater part of history; for it would make it unreasonable to believe any thing of which we had not some personal knowledge. As when a native of northern climates declares, to the inhabitants of some tropical island, that, in his country, water is often as hard as a stone. According to the above mentioned sophism, the islanders would do well to treat such an account with scorn; for it contradicts their experience, and is far less credible than that travellers should relate fic-

tions. But we see that such a rule would be fallacious.

3d. When sophistical reasoning is neither subtle nor dogmatical, it is often flippant and epigrammatic. This style is adopted by those who, being incapable of thinking vigorously, employ jests and irony to disguise the poverty of their understandings;—or, who having adopted profligate principles, which they well know will not bear examination, have recourse to wit, as the best weapon for keeping off the attacks of sound reason. By far the greater part of all that has been written against the Bible, is sophistry of this sort.

4th. The real question at issue is often covertly taken for granted, in a sophistical argument; or is silently *assumed*, as a general principle, which no one disputes. A whimsical instance of this sort is the one which has frequently been related of the witty Charles II. who proposed it as a grave question—Why a pail of water weighed no more after a fish was put into it than before? After much learned controversy had taken place on the subject, the difficulty was dispelled by simply denying the assumed fact. An easy means of exposing many sophisms, is to examine, one by one, the propositions which are *tacitly* or *obliquely*

affirmed in the argument. A single word sometimes contains within it the very point in dispute, by having a double, or doubtful sense. Thus it may be said—a *virtuous man* need not trouble himself with matters of faith, or forms of piety; for *virtue* must ever be the object of the Divine favor; and those who possess it can have nothing to fear in the future life. The questionable point is here indirectly affirmed, by calling a man *virtuous*, who is destitute of faith and piety; or whose only virtue consists in temperance and honesty.—We may deny this to be virtue, and then the sophism is stript of all appearance of force.

5th. Sophisms often consist in assigning the wrong cause of an effect, when two causes have become accidentally associated. As when it is affirmed that Christianity has been the cause of massacres, persecutions, and sanguinary wars. It is true that the name of Christianity, and its authority, have been used as a pretext to justify the ambition and cupidity of princes, or their advisers: but it is these malignant passions, not the Gospel of peace, which have been the scourges of mankind.

6th. Sophisms consist sometimes in the use of a *general* principle, as if it were universal. It is perhaps *generally* true, or true to some ex-



tent, that Portuguese are perfidious, Spaniards proud, Italians revengeful, &c., but it is far from universally true, and nothing can be more illiberal than to assume the truth of such propositions, *in particular instances*, without proof. Persons who attempt to decide practical questions by vulgar maxims, are often in the wrong on this ground. There is, perhaps, some general truth contained in certain popular apothegms; but nothing that can be confided in, as a rule. Or the exceptions are quite as many as the instances in point. It may be observed that persons of cultivated minds and of extensive experience, sometimes err by placing *too little* reliance upon general rules, which they know to be open to many exceptions; while on the contrary, uncultivated minds make a rude and blind use of such rules, without allowing at all for exceptions.

It should ever be kept in mind, that the soundness of an argument is not to be estimated by our personal ability to defend, or to expose it. We may be much embarrassed, or quite overthrown in our endeavors to establish the principles we believe to be true: and may be utterly at a loss to reply to the objections of those who impugn them. But it by no means follows that those principles are erroneous, or

those objections valid. All the difficulty may arise from our particular ignorance, or want of address, in argumentation. There is no defence against sophistry better than an intelligent modesty. Indeed, a true firmness of mind implies an habitual recollection of the limited extent of our powers and acquirements ; and there is a union of diffidence and of courage which true wisdom approves :—that is to say—diffidence of *ourselves*, and courage in resisting the attempts of others to strip us, in a moment, of our principles. It rarely happens that important truths are acquired in consequence of *disputation*. To read—to think—to converse calmly with the best informed persons ; and, if the matters in question belong to religion—to implore Divine teaching—these are methods of learning far more likely to lead us to truth, than to wrangle with wranglers. Sophistry is the common fruit of disputation ; and even when our cause is good we are in danger of falling into disingenuous methods of argument, if hardly pressed by an adversary, or if the temper be roused by a sense of unfairness on his side. Simple truth then not serving our purpose, we turn to any subterfuge that may offer itself at the moment.

## SPACE.

By the diffusion of sensation through the body, and by combining the sensations of touch and of sight, we acquire the notion of Extension : if from this notion, which is conjoined with that of solidity, or resistance, we detach, or abstract, the ideas of visible and tangible substance, the notion that remains is signified by the word *Space*.

## SUBJECT,

In a proposition, is that, concerning which the *predicate* is affirmed, or denied. Or when speaking of *things*, it is that to which some quality that has been mentioned is supposed to belong.

## SUBSTANCE :

A mere word of convenience, representing the involuntary notion that is formed of a something hidden, which supports, or sustains all the qualities by which any thing is made known to us. Or it may represent, abstractedly, the most inseparable and permanent of those qualities. Matter is called a solid, extended, and colored *substance* : Mind—a thinking, or rational *substance*.

## SUCCESSION OF IDEAS,

Is that incessant flow, or continuous movement of images, feelings, notions, which belongs to the mind, both waking and sleeping, and which is again and again diverted, interrupted, and controlled, by impressions on the senses—by internal sensations; or by the exertion of the active power of the mind. There are certain principles which seem to influence this flow of ideas, and these are called the laws of ASSOCIATION, or—

## SUGGESTION;

That is to say, whatever it is that connects one involuntary thought with another; or causes *this* image to follow *that*. Any one who retraces the musings which have occupied him in an idle hour, will find that the most incongruous or dissimilar ideas have succeeded each other: and yet, if he can distinctly recollect the train of images, or feelings, he will discover, in each instance, some trivial or incidental circumstance which has served to link them together. Some circumstance of resemblance, or of dissimilarity;—of proximity in space, or time:—some jingle or rhythm of words;—or some

unison of the emotions which attended both ideas.

This principle of suggestion prevails to a great extent, even when the mind is in an active state:—or there is, if we might so speak, an alternate *regency* of the mind, by its involuntary suggestions and its active power; and in *the issue* of our meditations, there is commonly a mingling of both. Infirm minds are more controlled by suggestion, and less by voluntary power. Strong and cultured minds are less influenced by suggestion, and more by their rational force. The diversities of intellectual character take their rise very much from the differences that exist in this principle of suggestion. One man's thoughts are chiefly suggested by words, phrases, and modes of expression, that have fixed themselves in the memory; such a one may speak fluently, and pertinently, but will seldom or never be profound, or original. Another man's thoughts are suggested chiefly by his habitual emotions, or by what might be called—the color of his imagination.—Sentiments of benevolence, or anger, or contempt; or the love of freedom, or the emotions of piety;—or impressions of sublimity, or ideas of beauty, rule the current of his thoughts, and enable him,

with vivacity and force, to bring forward such as are most proper for exciting similar emotions in other men. But then he will be dependent, for his power of speaking effectively, upon the degree of excitement his mind may happen to be under. In another mind perhaps, external resemblances, or casual analogies, are the ruling principles of suggestion; and such will be ingenious, striking, witty, and *seemingly* original, in their discourse. But if it be the *real* analogies, and abstract qualities of things, that form the principles of suggestion, they will constitute the philosophical character. When, from a man's ordinary or careless conversation, the particular law of suggestion in his mind is discovered, we may, as if by the use of a key, understand much of his conduct, and often unravel his character; and sometimes even anticipate what, in certain circumstances, he will say and do. A true knowledge of the law of suggestion, *in our own minds*, if kept in view, will often guard us against the follies or evils into which we are most prone to fall.

## SYLLOGISM,

From συλλογισμὸς, a putting together of reasons.  
An inference from admitted principles, or *pre-*



*mises* (as they are called) when expressed in due form, is called a syllogism; as thus—

1. No one who lives in perpetual fear can be happy;
2. But a miser lives in perpetual fear:
3. Therefore a miser cannot be happy.

If we know concerning the *whole* of a thing that it is so and so; or not so; we may then safely affirm the same of any part, as thus—

All the space between the lines A, B, C, is green—

But the little space d, is included within the lines A, B, C;

Therefore the little space d, is green.

All the artificial forms of the syllogism, as set forth in books of logic, may be reduced (in one manner or another) to this rule; and, for all practical purposes, it is quite as well to drop the *form* of logical inference, and simply to state the inference, with an allusion to the general truth, whence it results as thus—A miser can never be happy because he lives in perpetual alarm. Every one well knows that this state of incessant trepidation is incompatible with happiness; nothing is gained by formally declaring it.

In the technical language of logic, the two preceding propositions are called the *premises*;

or the antecedents : and the first of them the *major*, the second the *minor*, and the third the *conclusion*. This method of formal reasoning by syllogism, was long believed to be adapted to the discovery of things unknown. But it is manifest that it can safely be applied only to the *setting forth*, distinctly, of things already known. If the *major* proposition be uncertain, or if it contains more than we are fully acquainted with ; or if it be uncertain whether the *minor* be properly a part of the *major*, then our *conclusion* must be also uncertain ; and if owing to this *appearance* of rigid reasoning, we are induced to think that to be *ascertained*, which in fact is not so, our logic serves only to fortify us in error. It was thus that during many ages, the most egregious errors in religion and philosophy, were held to be unquestionable truths.

#### SYNTHESIS,

From σύνθεσις, a putting together, is opposed to *Analysis*, which is the separation of parts, or elements. Analysis is employed on things *unknown*, for the purpose of becoming acquainted with them. Synthesis is employed on things already known by analysis, and which are re-compounded for the purpose of contemplating

them in their symmetry, and their mutual relations.

#### TERMS

Of a proposition, are its two *ends*, namely the *subject*, and the *predicate*.

#### TESTIMONY,

Is the conveyance of facts, by speaking or writing, from those who have *personal knowledge* of them, to those who have not: the accepting of such evidence is *Belief*. (See BELIEF and EVIDENCE) By far the larger portion of all the evidence by which we are directed in the affairs of common life, and almost the entire mass of the sciences, and of what is called *Learning*, in its various branches, is received upon the faith of testimony. And in truth the human mind is so constituted as to receive, and to rely upon this sort of knowledge, with as much confidence as upon that which it acquires by personal inspection. It is only after having found it, in several instances, fallacious, that we learn to withhold our confidence, or to ask for corroborative evidence.

Testimony may be fallacious, either in consequence of the unintentional error of the witness; or in consequence of his wilful falsifica-

tion. In estimating therefore the *value* of testimony, the process resolves itself into two inquiries.

1st. Is the witness competent to give evidence in the instance before us? or in other words, had he the means of fully knowing the fact which he reports;—and was that fact one in relation to which he was likely, or not likely, to be deceived? As for example, if a witness declares that he has been robbed and beaten on the road; this is a matter concerning which he could not have been *mistaken*; and if any doubt rests upon the fact, it must attach to his *veracity*. But if he affirms that the man whom now he sees in court was the perpetrator of the deed, it is possible that, without any design to deceive, he may be in error; and especially so, if the robbery took place after sun-set: on *this* point, therefore, we are not only to consider the *veracity* of the witness, but his *competency* also.

2d. If satisfied on these points, we next consider the *character* of the witness, or judge of the probability of his being influenced by motives which may lead him to a falsification of the fact. As for example, if a man has a great interest at stake in the determination of a controversy, there exists so strong a probability that he may yield to the temptation to misrepresent

the truth, that his evidence is either not asked for at all, or is received with great caution. The *veracity* of a witness is established (chiefly) in the four methods following:—

1st. His known or *ordinary* character is examined. *Character* is in fact the chief ground of confidence in Testimony. Falsehood is abhorrent to a man of virtue; and the cases are extremely rare in which those who possess a well-established reputation, as honest men, are found to forfeit it, how much soever their testimony may be opposed to their personal interests. We believe a friend of whose integrity we have no suspicion, even when he affirms what may seem highly improbable. But a man of no character, or a known liar, receives scarcely any credit, even on the most ordinary occasions. Our reliance upon *character* is so firm, *that nothing seems to us so incredible* as that several men of good understanding, and tried integrity, should concur in affirming an untruth. The veracity even of men who lived in distant ages may safely and fairly be judged of, if history has recorded the general course of their conduct; or if their writings have descended to our times, and given, as it were, a portrait of their dispositions and principles.

2d. We estimate, as far as we have the means

of doing so, what may be called the *moral position* of the witness, in relation to the facts of which he speaks:—that is to say, how those facts, or his testimony concerning them, affected, or was likely to affect, his personal welfare. Even if we confide in his character, we shall feel a slight diminution of confidence, if this evidence was, in its tendency, highly advantageous to the witness; and on the contrary, even if we know nothing by other means of the character of the witness, we shall readily impute to him a good character, if we find him persisting in testimony which immediately exposed him to peril or disadvantage:—and then, if by some indirect channel, we are assured of his general integrity, it will be scarcely possible to entertain a doubt of his veracity.

3d. The value of Testimony is, in most cases, easily estimated by comparing one part of it with another; especially in points of a trivial or unimportant kind. The *lesser* circumstances of a story that has been invented to deceive, will seldom be found compatible, one with another. Nothing but the real consistency of truth, can give consistency to a long relation of facts. The minute particulars of place, and time, and persons, and accidents, can never be so calculated and arranged by a fabrication, as to



remove every clew to the detection of the fraud. Testimony that is completely in accordance with itself, is very rarely found to be untrue.

4th. The *conclusive* method of detecting the false, and ascertaining the true, in matters of Testimony, is—The comparison of the evidence of independent witnesses. A set of false witnesses, whatever pains they may take in arranging their evidence, never fail to be at fault in some notable instance. And much more is that probability increased, if they give their evidence without previous concert, or in an incidental manner, which admits of no contrivance. Again, if there are witnesses to the same fact, some of whom are opposed in interest to others, or who are absolutely unconnected, one with another, their *concurrence* must be held to place the matter beyond reasonable doubt.

It is by these methods that Testimony is estimated in courts of justice, and that questions of property and of life, are determined:—and it is by a full and fair application of the very same rules that the most important of all questions is brought to an issue—namely, that which relates to the Truth of Christianity. The Testimony which supports the great facts recorded by the Evangelists and Apostles, is confirmed

in each of the methods above mentioned, and by the combination of them all. Indeed it may boldly be affirmed that no fact whatever, in ancient history, is nearly so well and fully attested as is the Gospel history. If *that* history is rejected, then not only is all history an illusion, but the entire system of human affairs is removed from its foundation, and no man can rely upon anything but what is immediately present to his senses. The young reader is recommended, both as an exercise of his power of investigation, and as a means of establishing his religious principles, to apply *for himself*, the preceding four rules to the evangelical history. He will not be at a loss to obtain the information requisite for doing so, if he refers to any of the well-known works which exhibit at large, the Christian Evidences.

#### THEORY

Is sometimes distinguished from *practice* ; as thinking differs from acting : or as science differs from art. But in its strictest sense, the word signifies a system, or set of principles, intended to explain certain facts not as yet confirmed by demonstrative reasoning. A *hypothesis* is a single supposition, relating to the cause of a

particular effect. A *theory* is a complete set of suppositions, comprehending a hypothetical explanation of all the facts belonging to one branch of science. As for example—a hypothesis may be advanced relative to the luminous stream which attends a comet: or there have been several *theories* of the heavens, explaining all the appearances and movements of the heavenly bodies, on different principles, as the Ptolemaic, the Copernican, and the Newtonian.

#### TIME,

Is duration measured, or divided, into equal parts; as distance is extension, so measured.

#### TRUTH,

Is the agreement of our notions with the reality of things; or it is the agreement of propositions with the notions, or things, or facts, concerning which an affirmation is made. The word *truth* is often improperly employed, in a vague sense, as if there were an abstract existence, somewhere to be found, which is independent both of propositions and of notions. But truth, as it is an *agreement*, or a sameness, implies necessarily, a thing, or notion; and a representation, or affirmation concerning it.

Truth in propositions does not exist, unless the terms employed are understood in the same sense by the speaker, and by the person addressed. As well utter a formal falsehood, as use a word in a sense which those to whom we speak do not suppose us to intend.

In relation to the truth of *notions*, or conceptions, a distinction of some importance is to be observed, between a *perfect* and an *imperfect* agreement of our notions with the things that are the objects of them. The notion we form of a triangle, and of its properties, may be *perfect*:—that is to say, *complete* as well as *faultless*. But our notions of the operations of nature—of the constitution of our own minds, and especially of the attributes of the Divine Being, can never be better than *imperfectly true*:—for our knowledge on these subjects is very limited. The notion which a child has of the moon, who would fain have it given to him as a plaything, is altogether false. The notion of the astronomer, who rightly estimates its size and distance, and calculates, with precision, its movements, is true—but imperfectly so; inasmuch as he knows little more of the moon than those mathematical facts.

Such, too, are the notions which the chemist forms of the properties of bodies; they are

precise to a certain extent; but beyond that point, are vague, or erroneous. It is important in all cases to discern, and ingenuously confess, the imperfection of our knowledge. This ingenuousness is now commonly exercised in all branches of natural science. But in matters of religion it is often much wanting, and not a few of the controversies which divide the Christian world would instantly disappear, or be held in abeyance, if things which surpass the range of our conceptions, or the limits of our actual information, were seen and acknowledged to be, as they are, unknown, except so far as the bare affirmation of Scripture offers them to our assent, as facts partially revealed. All that is imagined, or dogmatically affirmed, beyond this limit, is not true, how nearly soever it may be connected with truth; but is positive error. To adhere firmly to what is known, and to reject all those surmises and inferences by which the mind labors to fill up the vacant spaces in its systematic notions, is a prime part of wisdom.

THE END.











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